

**QUARTERLY GROUNDWATER  
MONITORING REPORT  
2<sup>ND</sup> QUARTER, 2006  
CDF - LAYTONVILLE FIRE STATION  
46401 NORTH HIGHWAY 101  
LAYTONVILLE, CALIFORNIA**


May 31, 2006


A report prepared for:


Mr. A.K. Jain  
State of California  
Department of General Services Real Estate Services Division  
Underground Storage Tank Unit  
707 Third Street  
Sacramento, California 95605

**Quarterly Groundwater Monitoring Report**  
**2<sup>nd</sup> Quarter 2006**  
**CDF - Laytonville Fire Station**  
**46401 North Highway 101**  
**Laytonville, California**

Kleinfelder File No. 68149  
May 31, 2006

  
\_\_\_\_\_  
Sarah Callahan  
Staff Geologist

  
\_\_\_\_\_  
Jennifer Gomez  
Environmental Group Manager

  
\_\_\_\_\_  
Bradley Erskine, Ph.D., R.G., C.E.G., C.H.G.  
Area Manager

**KLEINFELDER, INC.**  
780 Chadbourne Road, Suite D  
Fairfield, California 94534  
(707) 429-4070  
(707) 429-4162 FAX

## TABLE OF CONTENTS

Chapter	Page
1.1 INTRODUCTION .....	1
2.1 SITE HISTORY .....	1
3.1 FIELD ACTIVITIES .....	2
3.1.1 <i>Measurement of Groundwater Levels</i> .....	2
3.1.2 <i>Collection of Groundwater Samples</i> .....	2
4.1 LABORATORY ANALYSIS .....	2
5.1 RESULTS .....	3
6.1 DISCUSSION.....	3
7.1 LIMITATIONS .....	5

### TABLES:

- |   |  |
|---|--|
| 1 | Summary of Groundwater Monitoring Parameters |
| 2 | Summary of Groundwater Analytical Results    |

### PLATES:

- |   |  |
|---|--|
| 1 | Site Location Map  |
| 2 | Site Map   |
| 3 | Groundwater Elevation Contour Plot, May 17, 2006                 |
| 4 | Total Petroleum Hydrocarbons as Gasoline Plume Map, May 17, 2006 |

### APPENDICES:

- |   |   |
|---|---|
| A | Field Sampling Protocol                     |
| B | Purge Logs                                  |
| C | Laboratory Data Sheets and Chain of Custody |
| D | Historical Versar, Inc. Analytical Results  |

## 1.1 INTRODUCTION

This report presents the results of the 2<sup>nd</sup> Quarter 2006 groundwater monitoring event at the California Department of Forestry (CDF) Laytonville Fire Station in Laytonville, California (Plate 1). The field sampling was conducted in May 2006 by Kleinfelder and the laboratory analyses were performed by McCampbell Analytical Inc. of Pacheco, California.

## 2.1 SITE HISTORY

The following background information was obtained from previous reports prepared by Versar, Inc., dated January 31, 2003; December 27, 2002; and July 8, 2002.

In June 1988, one 1,000-gallon gasoline UST was excavated and removed from the site. During the removal, an undetermined volume of fuel was discovered to have leaked. Wahler Associates drilled 15 soil borings in October 1989, installed four groundwater monitoring wells, and collected soil and groundwater samples for analysis. The soil and groundwater analytical results confirmed the presence of petroleum hydrocarbons in the soil and groundwater beneath the site.

In 1993, West & Associates Environmental Engineers (WAEE) conducted groundwater monitoring and discovered that the existing wells were screened below the static groundwater elevation. WAEE installed an additional six groundwater monitoring wells at the site. In 1997, WAEE installed and operated a groundwater sparging system that operated from January through May 1997. This system was shut down in May 1997 due to technical problems related to power requirements of the system.

In 1998, BACE Environmental installed one additional groundwater monitoring well, collected soil and groundwater samples, conducted a sensitive receptor survey, and prepared a report of the findings.

In November 2002, Versar, Inc. conducted a supplemental site investigation. Ten soil samples were collected from ten soil borings drilled at the site, identified as SB-1 through SB-10. Laboratory analyses of these soil samples detected various low (<5 mg/kg) concentrations of analytes, except 240 mg/kg of total petroleum hydrocarbons identified as gasoline (TPH-g) was detected in soil boring SB-4a at 10 feet bgs.

Groundwater monitoring has been conducted at the site for six of the wells since August 1994 and at four of the wells since November 1989. Concentrations of TPH-g, benzene, toluene, ethylbenzene, and xylenes (BTEX) have been identified in monitoring wells MW-1, MW-2, MW-3, MW-6, MW-7, MW-8, MW-9, MW-10, and MW-11. A trace concentration of 1,2-dichloroethane (1,2-DCA) was detected in monitoring wells MW-6, MW-9, MW-10, and MW-11 during the December 1998 groundwater monitoring event.

### **3.1 FIELD ACTIVITIES**

Field activities conducted during this phase of work included the collection of one groundwater sample from wells MW-1 through MW-11, and one sample from a domestic water supply well (SW) at the site (Plate 2). Kleinfelder representative, Sarah Callahan, conducted sampling on May 17, 2006. Results of the investigation are presented in the following sections.

#### **3.1.1 Measurement of Groundwater Levels**

In order to assess the groundwater gradient at the time of sampling, water level measurements were measured in the eleven wells prior to purging and sampling the wells. The depth to static groundwater was measured from a surveyed point at the ground surface. The depth of water was then subtracted from the ground surface elevation to provide a ground water elevation for each monitoring well location. The depth-to-water measurements were then converted to relative groundwater elevations with respect to mean sea level by subtracting them from the surveyed elevation.

The groundwater elevation summary data is presented in Table 1.

#### **3.1.2 Collection of Groundwater Samples**

The eleven wells were purged and sampled using a submersible purge pump as described in Kleinfelder's Standard Operating Procedures (Appendix A, Section A-3.2). The purge water was containerized in four 55-gallon DOT approved steel drums and left onsite. Disposal of the purge water will be forthcoming. Copies of the purge logs are presented in Appendix B. Table 1 presents the summary of groundwater monitoring parameters.

### **4.1 LABORATORY ANALYSIS**

The water samples were submitted under chain-of-custody to McCampbell Analytical Inc. McCampbell Analytical is certified under the California DHS's Environmental Laboratory Accreditation Program to perform the required analyses. Thirteen samples (12 primary and 1 trip blank) were analyzed for:

- Volatile Organic Compounds (VOCs) by EPA method 8260B, and
- Total Petroleum Hydrocarbons quantified as gasoline (TPH-g) by EPA method 8015m.

The samples were analyzed on a regular turnaround schedule.

## 5.1 RESULTS

Results of the groundwater sampling are as follows. The concentrations are summarized in Table 2.

- The laboratory reported TPH-g in wells MW-1, MW-2, MW-3, MW-6, MW-8, MW-9, and MW-10. TPH-g was not detected in samples from MW-4, MW-5, MW-7, MW-11, the supply well SW, and the trip blank.
- Benzene, ethylbenzene, and total xylenes were detected in MW-2, MW-9, and MW-10.
- Benzene and ethylbenzene were detected in MW-1, MW-4, MW-6, MW-7, and MW-11.
- Benzene, toluene, and total xylenes were detected in MW-3.
- Benzene, toluene, and ethylbenzene were detected in MW-8.
- Other VOCs were detected in MW-2, MW-3, MW-6, MW-8, MW-9, and MW-10.
- The samples collected from MW-5, supply well SW, and the trip blank all had no detectable concentrations of the analyzed constituents.

## 6.1 DISCUSSION

Table 2 summarizes the results of the groundwater analytical results reported in each well. Concentrations of one or more of the following constituents: TPH-g, benzene, ethylbenzene, toluene, total xylenes, and other VOCs were detected in each well except MW-5, the supply well SW, and trip blank.

These wells were last sampled in June 2005. Many wells have reportedly higher concentrations of constituents than previous events, while MW-2, MW-8, and MW-10 have lower concentrations.

Contouring the water elevation data indicates that the groundwater flow direction is generally west at a gradient of 0.008 ft/ft (Plate 3). The gradient flattens in the leachfield area, as has been observed in previous quarters. During this sampling event, two mounds were observed in the vicinity of MW-1, MW-6 and MW-8. In the past year and a half of sampling, the water level data has been inconsistent. The water level data may be affected by local recharge by the onsite leachfield, water well pump, seasonal fire station activities including washing fire trucks, and disturbance of the upper profile due to numerous excavation and fill activities over the past fifteen years. In addition, it

is possible that some of the wells are not performing properly due to improper construction, development, or post-construction degradation.

The May 2006 concentrations are lower than were measured in the previous sampling event (June 2005) in the following wells:

- MW-2, MW-8 and MW-10 for all constituents.
- MW-3 for n-Propyl benzene, ethylbenzene.
- MW-6 for total xylenes and 1,2,4-trimethyl benzene.
- MW-8 for TPH-g, benzene, toluene, ethylbenzene, total xylenes, n-Butyl benzene, Isopropylbenzene, naphthalene, n-Propyl benzene, sec-Butyl benzene.
- MW-9 for TPH-g, ethylbenzene, total xylenes, Isopropylbenzene, 1,2,4-trimethyl benzene, naphthalene, n-Propyl benzene, 1,3,5-trimethyl benzene.
- MW-10 for TPH-g, benzene, ethylbenzene, total xylenes, Isopropylbenzene, 1,2,4-trimethyl benzene, naphthalene, n-Propyl benzene, 1,3,5-trimethyl benzene, sec-Butyl benzene.

The May 2006 concentrations are higher than were measured in the previous sampling event in the following wells:

- MW-1 for TPH-g, benzene and ethylbenzene.
- MW-3 for TPH-g, toluene, total xylenes, and 1,3,5-Trimethylbenzene, 2-butanone, Tert-butyl alcohol.
- MW-4 for benzene and ethylbenzene.
- MW-6 for TPH-g, benzene, ethylbenzene, n-butyl benzene, isopropyl benzene, naphthalene, and n-Propyl benzene.
- MW-7 for benzene and ethylbenzene.
- MW-9 for benzene, n-butyl benzene and sec-Butyl benzene.
- MW-11 for benzene and ethylbenzene.

Analyzed constituents were not detected in MW-5, SW, and the trip blank above laboratory reporting limits. Kleinfelder contoured the TPH-g concentrations and found a pattern indicative of a plume centered at MW-9 (Plate 4).

The May 2006 samples were collected in unpreserved VOA containers, which shortens the laboratory holding time from 14 days to 7 days. The samples were extracted and analyzed by the laboratory within the 7 day holding time. In wells MW-2 and MW-3, the laboratory analyzed samples for BTEX multiple times at different dilution factors due to inconsistent results. The laboratory theorized that a bacteria may have been present in the sediment within the sample containers that was feeding on these constituents and causing elimination over time. The laboratory reported the first results and these are included in Table 2.

It is Kleinfelder's opinion that if bacteria were present within the groundwater, we would expect to see a gradual decrease in concentrations of BTEX within the groundwater over time, as the contents of unpreserved VOAs is representative of groundwater within these two wells. However, Kleinfelder is not seeing a natural attenuation pattern at this site.

Kleinfelder does not concur with the laboratory for the following reasons:

- If the bacteria in the sample are representative of the bacteria in the groundwater, the significant decrease in hydrocarbons over less than a week indicates that natural attenuation in groundwater is occurring at a very rapid rate. Monitoring results over several years indicates that this is not occurring.
- The significant decrease of hydrocarbons in the VOA through biodegradation requires a very large population increase in bacteria. This is unlikely to occur because neither nutrients nor oxygen was added to the sample, and not enough time has elapsed.

## 7.1 LIMITATIONS

Kleinfelder has prepared this report in accordance with the generally accepted standards of care that exist in Mendocino County, California at the time of writing. It should be recognized that definition and evaluation of geologic and chemical subsurface conditions is difficult. Judgments leading to conclusions and recommendations are generally made with an incomplete knowledge of the subsurface and/or historic conditions applicable to the site. The conclusions of this assessment are based on field observations and analytical results obtained from groundwater samples collected from the site. More extensive studies may further reduce the uncertainties associated with this assessment. Kleinfelder should be notified for additional consultation if the client wishes to reduce the uncertainties beyond the level associated with this report. No warranty, expressed or implied, is made.

Kleinfelder offers various levels of investigative and engineering services to suit the varying needs of different clients. Although risk can never be eliminated, more detailed and extensive investigations yield more information, which may help understand and manage the level of risk. Since detailed investigation and analysis involves greater expense, our clients participate in determining levels of service which provide adequate information for their purposes at acceptable levels of risk.

Regulations and professional standards applicable to Kleinfelder's services are continually evolving. Techniques are, by necessity, often new and relatively untried. Different professionals may reasonably adopt different approaches to similar problems. Therefore, no warranty or guarantee, expressed or implied, will be included in Kleinfelder's scope of service.



During the course of the performance of Kleinfelder's services, hazardous materials may have been discovered. Kleinfelder will assume no responsibility or liability whatsoever for any claim, loss of property value, damage, or injury that results from pre-existing hazardous materials being encountered or present on the project site, or from the discovery of such hazardous materials.

Nothing contained in this scope of work should be construed or interpreted as requiring Kleinfelder to assume the status of an owner, operator, generator, or person who arranges for disposal, transport, storage or treatment of hazardous materials within the meaning of any governmental statute, regulation or order.

This document may be used only by the client and only for the purposes stated, within a reasonable time from its issuance. Land use, site conditions (both on site and off site) or other factors may change over time, and additional work may be required with the passage of time. Based on the intended use of the report, Kleinfelder may require that additional work be performed and that an updated report be issued. Non-compliance with any of these requirements by the client or anyone else will release Kleinfelder from any liability resulting from the use of this document by any unauthorized party.

TABLE 1  
GROUNDWATER MONITORING PARAMETERS

Well Number	Sampled By	Sample Date	Temperature (Deg. C)	pH	Conductance (umhos/cm)	Turbidity (NTUs)	Depth to Water (ft)	Groundwater Elevation (ft. msl)	Top of Casing Elevation (ft. msl)
MW-1	Kleinfelder	5/17/2006	23.7	7.62	388.3	26.87	0.15	1684.41	1684.56
MW-2	Kleinfelder	5/17/2006	18.8	7.02	603.2	293.00	5.91	1677.64	1683.55
MW-3	Kleinfelder	5/17/2006	27.5	7.4	507.5	92.00	6.71	1678.08	1684.79
MW-4	Kleinfelder	5/17/2006	19.8	6.82	470.3	18.36	4.38	1677.61	1681.99
MW-5	Kleinfelder	5/17/2006	20.7	7.55	96.14	194.00	1.9	1681.86	1683.76
MW-6	Kleinfelder	5/17/2006	22.7	6.83	349.9	206.00	2.75	1681.83	1684.58
MW-7	Kleinfelder	5/17/2006	17.8	7.65	127.8	23.89	5	1677.62	1682.62
MW-8	Kleinfelder	5/17/2006	20.9	6.88	767.5	26.70	4.09	1678.39	1682.48
MW-9	Kleinfelder	5/17/2006	17.5	6.71	416.6	0.23	5.66	1677.52	1683.18
MW-10	Kleinfelder	5/17/2006	16.5	7.81	265.2	31.92	7.75	1675.80	1683.55
MW-11	Kleinfelder	5/17/2006	18.5	6.65	469.4	47.66	5.52	1676.06	1681.58
SW	Kleinfelder	5/17/2006	26.0	6.95	387.3	0.00	NA	NA	NA

Notes:

Top of Casing elevation data provided by Versar, Inc. report, dated January 31, 2003

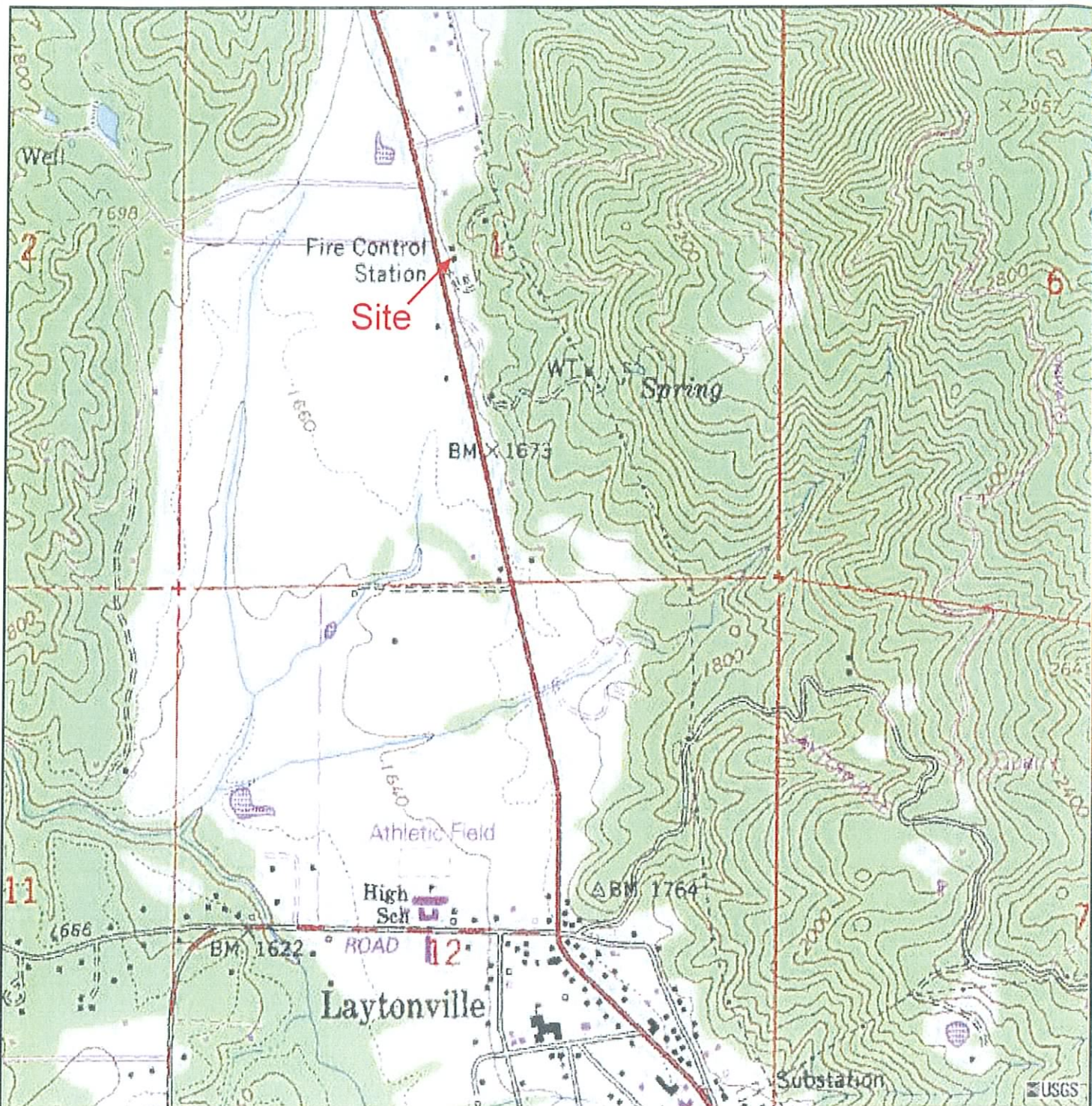
NTU = National Turbidity Unit

NA = Not Applicable, sample not taken from a purgeable well

TABLE 2  
GROUNDWATER ANALYTICAL RESULTS (ug/l unless otherwise noted)

Well Number	Sample Date	TPH-q	VOCs*	VOCs										VOCs				CD
				Benzene	Toluene	Ethylbenzene	Total Xylenes	nBB	IPB	1,2,4-TMB	NAP	nPB	1,3,5-TMB	sec-BB	1,4-TMB	1,3,5-TMB	sec-BB	
MW-1	05/17/06	210, a	ALL others ND	86.00	ND	9.60	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
	06/30/05	ND	ALL others ND	0.51	ND	1.30	ND	ND	ND	0.62	ND	ND	ND	ND	ND	ND	ND	ND
	03/30/05	ND	ALL others ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
	12/17/04	570	ALL others ND	20.00	3.10	34.00	36.00	1.20	3.70	72.00	9.30	12.00	7.70	ND	ND	7.70	ND	19.00
MW-2	05/17/06	3000, a	ALL others ND	67.00	ND	410.00	210.00	ND	ND	280.00	67.00	60.00	ND	ND	ND	ND	ND	5.90
	06/30/05	4700, a	ALL others ND	130.00	19.00	1000.00	480.00	ND	67.00	370.00	160.00	130.00	91.00	ND	ND	ND	ND	ND
	03/30/05	4300, a	ALL others ND	20.00	9.00	390.00	480.00	11.00	25.00	460.00	96.00	72.00	89.00	ND	ND	ND	ND	36.00
	12/15/04	170	ALL others ND	3.30	ND	8.00	6.90	1.10	1.50	11.00	6.50	4.90	2.90	0.83	ND	0.83	ND	n/a
MW-3	05/17/06	1900, a	MEK= 8.9, TBA= 16, All others ND	>270, p	7.20	ND	3.70	ND	ND	ND	ND	ND	3.10	ND	ND	3.10	ND	ND
	06/30/05	11700, a	ALL others ND	820.00	ND	31.00	ND	ND	ND	ND	ND	ND	19.00	ND	ND	19.00	ND	ND
	03/30/05	520, a	ALL others ND	7.50	ND	6.80	ND	3.00	1.90	1.50	3.10	6.50	3.30	0.69	ND	3.30	0.69	0.69
	12/15/04	1500	ALL others ND	170.00	ND	29.00	ND	5.40	5.50	9.60	19.00	3.90	ND	ND	ND	3.90	ND	ND
MW-4	05/17/06	ND	ALL others ND	6.00	ND	1.70	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
	06/30/05	ND	ALL others ND	1.40	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
	03/30/05	ND	ALL others ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
	12/17/04	280	ALL others ND	3.10	1.90	21.00	24.00	1.30	2.90	47.00	8.50	8.90	14.00	0.57	ND	14.00	0.57	5.70
MW-5	05/17/06	ND	ALL others ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
	06/30/05	ND, 1	ALL others ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
	03/30/05	ND	ALL others ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
	12/17/04	590	ALL others ND	5.10	2.90	30.00	25.00	ND	3.10	11.00	7.40	10.00	18.00	ND	ND	18.00	ND	3.60
MW-6	05/17/06	810, a, 1	ALL others ND	170.00	ND	140.00	ND	6.70	15.00	ND	36.00	30.00	ND	ND	ND	ND	ND	ND
	06/30/05	220, a, 1	ALL others ND	35.00	ND	26.00	0.53	1.10	4.90	0.70	5.20	11.00	ND	ND	ND	11.00	ND	ND
	03/30/05	140, a	ALL others ND	19.00	1.70	9.10	2.80	0.70	1.40	3.50	2.00	4.00	0.84	ND	ND	0.84	ND	19.00
	12/17/04	8700	ALL others ND	230.00	55.00	520.00	540.00	ND	52.00	1400.00	190.00	200.00	400.00	ND	ND	400.00	ND	ND
MW-7	05/17/06	ND	ALL others ND	0.90	ND	0.68	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
	06/30/05	ND	ALL others ND	0.52	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
	03/30/05	ND	ALL others ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
	12/15/04	ND	ALL ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
MW-8	05/17/06	150, a	ALL others ND	2.20	0.60	0.56	ND	ND	1.00	ND	ND	0.66	ND	ND	ND	ND	ND	ND
	06/30/05	390, a	ALL others ND	58.00	1.90	30.00	2.80	2.10	12.00	ND	5.20	27.00	ND	ND	ND	27.00	ND	ND
	03/30/05	1100, a	ALL others ND	68.00	13.00	95.00	38.00	ND	ND	11.00	ND	17.00	ND	ND	ND	17.00	ND	62.00
	12/15/04	480	ALL others ND	13.00	3.30	45.00	32.00	ND	5.50	28.00	7.50	15.00	8.20	1.20	ND	8.20	1.20	ND
MW-9	05/17/06	6000, a	ALL others ND	50.00	ND	310.00	70.00	42.00	60.00	130.00	57.00	110.00	82.00	17.00	ND	82.00	17.00	ND
	06/30/05	7100, a	4-Isopropyl toluene=23, ALL others ND	34.00	ND	490.00	650.00	27.00	69.00	800.00	130.00	190.00	270.00	10.00	ND	270.00	10.00	ND
	03/30/05	3900, a	ALL others ND	18.00	ND	140.00	64.00	24.00	31.00	160.00	41.00	120.00	50.00	12.00	ND	50.00	12.00	ND
	12/15/04	7800	ALL others ND	33.00	ND	420.00	350.00	50.00	65.00	770.00	150.00	220.00	250.00	18.00	ND	250.00	18.00	ND
MW-10	05/17/06	ND	ALL others ND	0.58	ND	4.00	2.30	ND	ND	2.10	0.55	0.69	0.52	ND	ND	0.52	ND	ND
	06/30/05	180, a	MTBE=0.54	0.70	ND	13.00	ND	2.60	6.50	2.30	3.30	1.90	0.56	ND	ND	1.90	0.56	ND
	03/30/05	160, a	ALL others ND	0.84	ND	11.00	8.90	ND	1.30	9.90	3.20	3.60	1.70	ND	ND	3.60	1.70	ND
	12/17/04	140	ALL others ND	1.60	ND	5.10	3.00	ND	0.97	12.00	3.90	4.00	3.50	0.71	ND	3.50	0.71	ND
MW-11	05/17/06	ND	ALL others ND	2.50	ND	0.78	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
	06/30/05	ND	ALL others ND	1.00	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
	03/30/05	ND	ALL others ND	1.70	ND	0.62	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
	12/17/04	180	ALL others ND	2.00	ND	9.00	9.60	ND	1.40	12.00	3.90	4.00	3.50	ND	ND	3.50	ND	9.00
MW-12	05/17/06	ND	ALL others ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
	06/30/05	ND	ALL others ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
	03/30/05	ND	ALL others ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
	12/17/04	1.0	Bromochloromethane=0.70, Chloroform=1.5, Dibromochloromethane=1.0, Bromodichloromethane=1.0, Methylene chloride=0.53	1.00	150.00	300.00	1750.00	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a





USGS, TerraServer website, 2005



NOT TO SCALE

**KLEINFELDER**

# SITE LOCATION MAP

PLATE NO

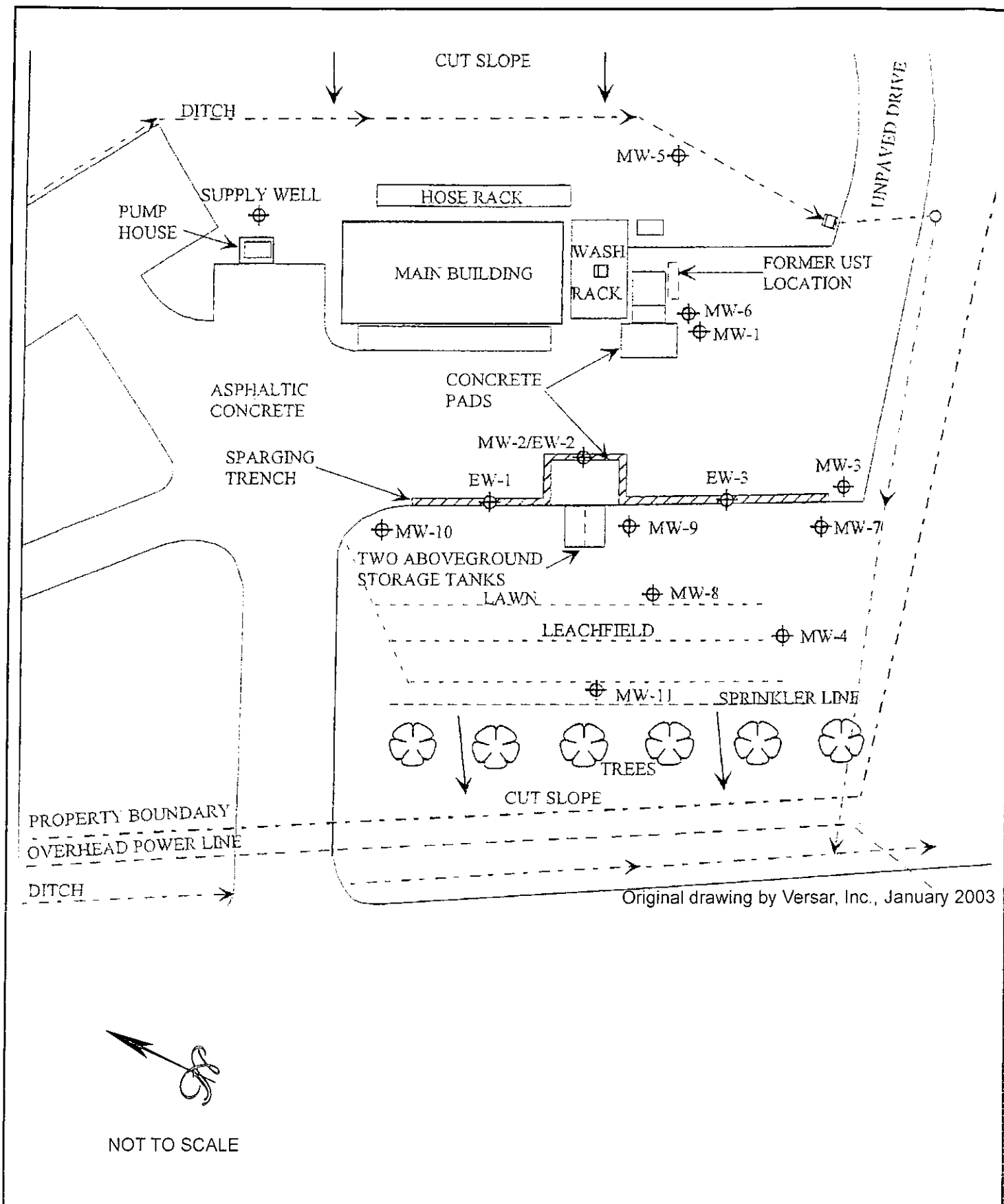
CDF LAYTONVILLE FIRE STATION  
46401 NORTH HIGHWAY 101  
LAYTONVILLE, CALIFORNIA

1

DRAFTED BY: S CALLAHAN

PROJECT NO: 68149

DATE: 1-7-2005



**KLEINFELDER**

**SITE MAP**

PLATE NO.

CDF LAYTONVILLE FIRE STATION  
46401 NORTH HIGHWAY 101  
LAYTONVILLE, CALIFORNIA

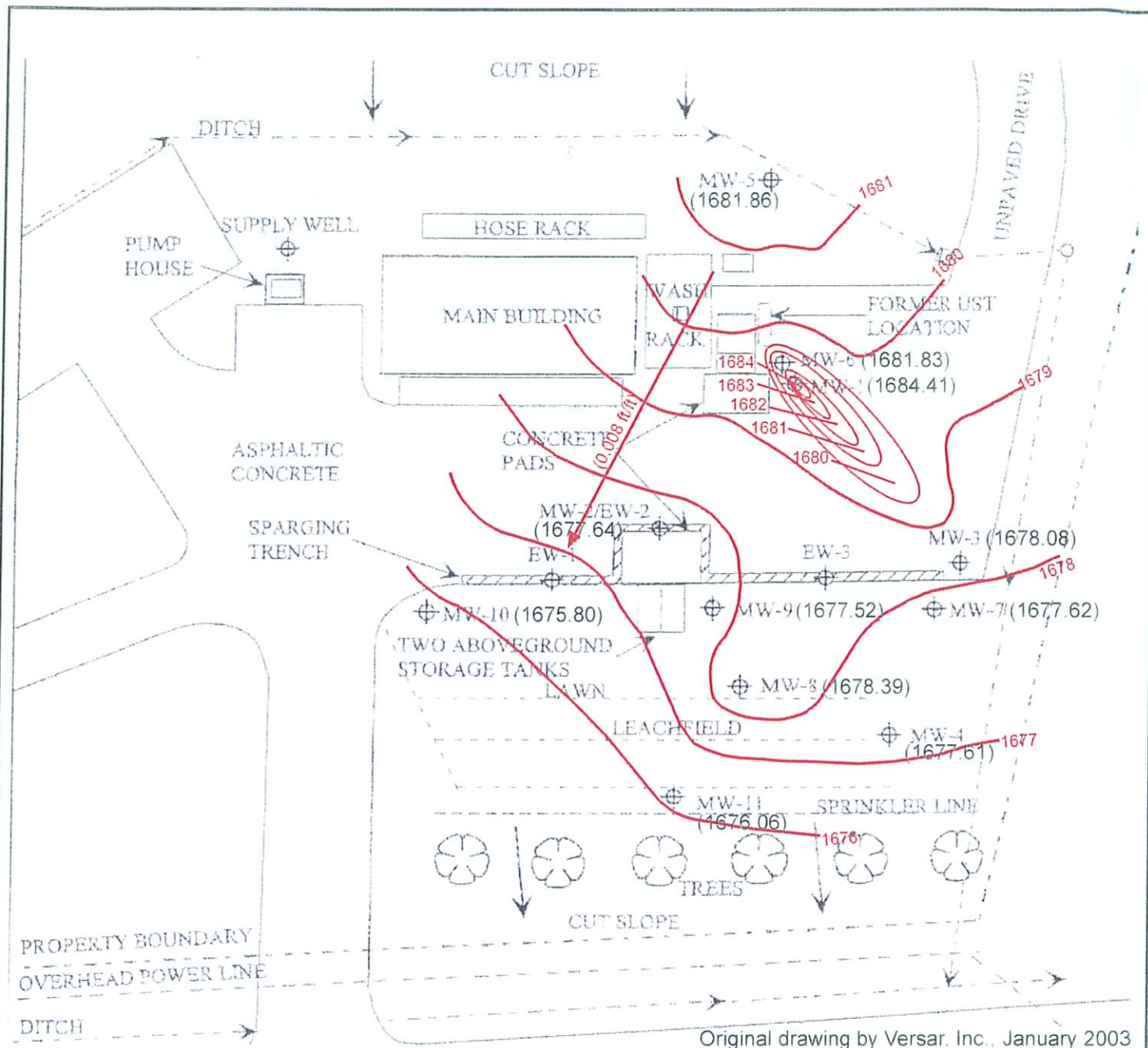
**2**

DRAFTED BY: S CALLAHAN

PROJECT NO: 68149

DATE: 1-7-2005





## EXPLANATION



GROUNDWATER GRADIENT DIRECTION



MW-3 MONITORING WELL LOCATION

(1679.62) ELEVATION ABOVE MEAN SEA LEVEL

1679 LINE OF EQUAL GROUNDWATER ELEVATION



APPROXIMATE SCALE  
1"=40'

**KH** KLEINFELDER

GROUNDWATER CONTOUR MAP  
MAY 2006  
CDF LAYTONVILLE FIRE STATION  
46401 NORTH HIGHWAY 101  
LAYTONVILLE CALIFORNIA

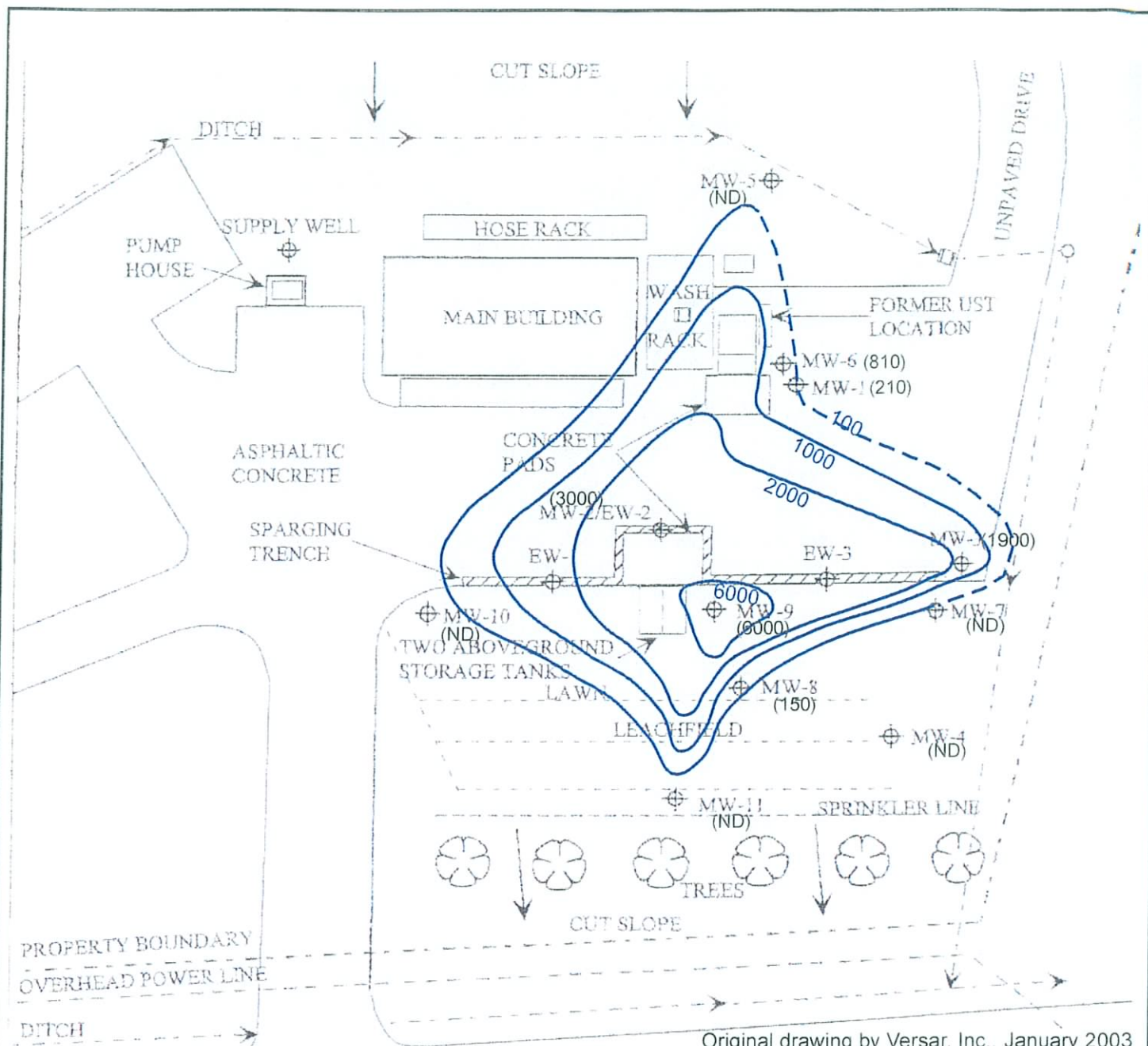
PLATE NO

3

DRAFTED BY: S CALLAHAN

PROJECT NO. 68149

DATE 5-17-2006



## EXPLANATION

⊕ MW-3 MONITORING WELL LOCATION

1,000 APPROXIMATE BOUNDARY OF EQUAL TPH-g CONCENTRATIONS (MG/KG)

--- ESTIMATED PLUME BOUNDARY DUE TO THE LACK OF GROUNDWATER DATA IN THIS AREA



APPROXIMATE SCALE  
1"=40'

**KLEINFELDER**

TPH-G PLUME MAP  
MAY 2006  
CDF LAYTONVILLE FIRE STATION  
46401 NORTH HIGHWAY 101  
LAYTONVILLE, CALIFORNIA

PLATE NO

4

DRAFTED BY S CALLAHAN

PROJECT NO: 68149

DATE: 5-17-2006

## APPENDIX A TYPICAL KLEINFELDER FIELD PROTOCOL

### A-1 FIELD PREPARATION

Before performing work in the field, environmental staff review the scope of work, prepare a health and safety plan, coordinate the work to be done with their supervisor, assemble the necessary sample containers, and check, calibrate and clean equipment to be used in the field. When underground utilities may exist at a site where subsurface soil samples are being collected, USA Underground is contacted with the boring locations and the scheduled date of drilling, or a utility locating firm is employed to check the boring locations.

### A-2 SUBSURFACE SOIL SAMPLING

#### A-2.1 Drilling

Subsurface soil samples are collected from soil borings. Soil borings are advanced using a truck-mounted drill rig, equipped with 8-inch hollow stem augers. The borings can be advanced vertically, or at an angle up to 45 degrees from vertical. During drilling, an experienced environmental geologist classifies the soil, logs the lithology and collects soil samples for laboratory analysis. A sample boring log form is attached at the end of this appendix.

#### A-2.2 Decontamination of Equipment

To reduce the potential for cross-contamination, augers and associated equipment are steam cleaned prior to drilling each boring. In addition, sampling equipment is cleaned with a trisodium phosphate wash and rinsed with distilled water prior to collecting each soil sample.

#### A-2.3 Collection of Soil Samples

Soil samples are collected approximately every 5 feet for field screening, lithologic logging, and potential chemical analysis. Samples are collected by advancing the boring to a point immediately above the desired sampling depth and then driving (vertical borings) or pushing (slant borings) a Modified California Sampler, lined with three brass tubes, into the undisturbed soil. The sampler is then removed from the bottom of the boring. The ends of the bottom (third) tube are covered with Teflon and sealed with tight-fitting plastic caps.



After the samples are collected they are individually labeled. The label includes Kleinfelder's name, job number, the date and time the sample was collected, the employee number of the individual who performed the sampling, and a unique five-digit sample identification number. A custody seal is also placed on the sample in such a way that any attempt to tamper with the sample is easily visible. An example of a sample label and custody seal are attached at the end of this appendix.

#### A-2.4 Qualitative Field Screening

An organic vapor detector, such as a Photovac TIP, using a photoionization detector (PID) or a Foxboro flame ionization detector (FID), is used to provide a qualitative screening of each soil sample collected from the borings. The organic vapor detector measures ionizable compounds in the air in parts per million by volume (ppmv). Field calibration is performed using a calibrated span gas. Ambient air is used to set the instrument zero. A calibration form is attached. The soil contained in the cone of the sampler or in a brass tube is exposed and screened with the organic vapor detector. The vapor reading is noted as the field screening result.

For the protection of the drilling crew, the organic vapor detector is also used to measure the volatile concentrations in the breathing zone prior to and during the drilling of the samples. Total ionizable hydrocarbon readings in excess of one ppmv may necessitate respiratory protection for the affected crew members. This requirement is included in the complete field health and safety plan developed for the project prior to the start of field work.

#### A-2.5 Sample Handling

After labeling, the sample is immediately stored in an iced cooler for transport to Kleinfelder's office sample control or to the analytical laboratory. A Kleinfelder chain-of-custody form is attached to the cooler. The chain-of-custody form includes Kleinfelder's name, address and telephone number, the employee number of the individual who performed the sampling, the sample numbers, the date and time the samples were collected, the number of containers each sample occupies, and the analyses for which the samples are being submitted, if any. The chain-of-custody form is signed by each person who handles the samples, including all Kleinfelder employees and the receiving employee of the analytical laboratory when the samples are delivered. An example of the chain-of-custody form is attached to this appendix.

#### A-2.6 Soil Sample Selection for Laboratory Analysis

The selection of soil samples for laboratory analysis is based upon: 1) the project objectives and requirements, 2) qualitative field screening performed in the field using

the organic vapor detector, and 3) field observations such as lithology, odor, discoloration, or high moisture content. Generally, samples are submitted from the bottom of the boring and from soil horizons with significant potential for contamination as indicated by the organic vapor detector, observations, and site history. Samples may be collected from regular intervals when information on concentrations versus depth is desired. Samples that are not selected for laboratory analysis are held in sample control for possible future reference. When these samples are no longer needed, they are returned to the site and are combined with the soil cuttings generated during their collection.

#### A-2.7 Soil Boring Closure and Soil Cutting Disposal

Soil borings are closed immediately after the collection and logging of soil samples. Closure is accomplished by grouting the boring with a cement/bentonite slurry or as otherwise required.

Drill cuttings will be placed in 55-gallon drums or wrapped in plastic and left on site for disposal by the site owner. If requested, Kleinfelder can coordinate disposal of soil and water with contractors after chemical analysis results are available.

### A-3 GROUND WATER MONITORING

#### A-3.1 Monitoring Well Construction

Construction details for shallow ground water monitoring wells are as follows:

- The well casing will be 2-inch inside diameter, flush threaded joint, schedule 40 PVC pipe.
- The wells will be constructed in 8-inch diameter boreholes.
- Well screen sections are perforated with 0.010- or .02-inch factory-cut slots. This parameter is assessed (and modified if required) after the boring logs and, if warranted, a sieve test has been performed and the results received.
- The wells are generally screened from 5 feet above to 20 feet below first ground water. The screen length is reduced if an aquitard with a minimum thickness of 5 feet is encountered. If an aquitard is encountered the well is usually terminated 1 to 2 feet into the aquitard. Effort is made not to screen across two aquifers. If confined aquifer conditions or high vadose zone contamination is encountered, the well screen is usually not set above the depth of first encountered ground water. Wells are usually not set in areas of suspected significant soil contamination.

- The PVC pipe and end caps are steam cleaned prior to installation.
- The annular space between the screen and the wall of the boring is backfilled with the appropriate clean Lone Star Industries 0/30 or 2/12 Monterey sand to approximately 2 feet above the top of the perforated sections. Based on soil logs or a sieve test, modifications may be made regarding the size of sand to be used. Installation of the 0/30 sand may require that the sand be tremmied, using clean water. In this event, a sample of the tremie water is collected, unless the source is known to be clean.
- A 3- to 5-foot bentonite plug is placed above the sand pack to provide a seal against surface water infiltration.
- The remaining annular space is filled to the surface with tremmied cement/bentonite grout to the surface.
- The wells are secured in a locking stovepipe. The well heads may be enclosed in a cement utility box set flush to the ground surface located in a traffic area.

### A-3.2 Monitoring Well Development and Sampling

The wells are developed to reduce the effects of drilling on the formation and to increase the effective hydraulic radius of the well.

Monitoring wells are generally developed 24 to 48 hours after installation to allow the grout to set. Each well is first sampled with a clear acrylic bailer to visually inspect for hydrocarbon layer or sheen. If no product layer or sheen is observed on the water, the well is developed by surging, pumping, or bailing. Surging along the screened interval of the well is performed to draw the sediment from the formation into the filter pack and the well and to set the sand pack. The sediment laden water is purged from the well at a rate of between 0.75 to 10 gallons per minute (gpm) depending on recharge rate and casing size. Development continues until the discharge runs relatively clear of fines. Approximately 5 to 10 well volumes are generally removed from each monitoring well. Discharge water is stored in 55-gallon drums and left on site for later discharge or disposal by the client, depending on laboratory results.

After the wells are developed, the aquifer is allowed to equilibrate for at least 24 to 48 hours. The wells can then be purged and sampled. Purging and sampling may be accomplished with Teflon bladder pumps and/or bailers. During the purging of the wells, field parameters (pH, conductivity, and temperature) are monitored. Samples are collected after the field parameters have stabilized (normally requiring the removal of three to five well volumes). Water sampling containers are supplied and prepared by

the laboratory. These sample containers are immediately sealed after sample collection and placed in an iced cooler. At the end of the day, the water samples are delivered under chain-of-custody to an analytical laboratory certified by the state for the planned chemical analysis.

### A-3.3 Sample Handling

After labeling, the sample is immediately stored in an iced cooler for transport to the analytical laboratory. The label includes Kleinfelder's name, job number, the date and time the sample was collected, the employee number of the individual who performed the sampling, and a unique five-digit sample identification number. A custody seal is also placed on the sample in such a way that any attempt to tamper with the sample is easily visible. An example of a sample label and custody seal are attached at the end of this appendix.

A Kleinfelder chain-of-custody form is attached to the cooler. The chain-of-custody form includes Kleinfelder's name, address and telephone number, the employee number of the individual who performed the sampling, the sample numbers, the date and time the samples were collected, the number of containers each sample occupies, and the analyses for which the samples are being submitted. The chain-of-custody form is signed by each person who handles the samples, including all Kleinfelder employees and the receiving employee of the analytical laboratory when the samples are delivered. An example of the chain-of-custody form is attached.

### A-3.4 Equipment Decontamination

To reduce the potential for cross-contamination between wells, all developing and sampling equipment is washed in a trisodium phosphate solution and rinsed in distilled water or steam cleaned prior to use in the next monitoring well.

### A-3.5 Well Survey

The locations of soil borings and monitoring wells and the elevation of the top of the PVC casings is usually surveyed and tied into permanent markers, if readily available. Survey accuracy is 0.1 foot for the "x" and "y" coordinates and .01 foot for the "z" coordinate. The depth to static ground water is measured from a set location at the top of the PVC casing. The depth of water is then subtracted from the elevation of the top of the well casing to provide a ground water elevation for each monitoring well location.

<b>KLEINFELDER</b>				PROJECT NO: <u>68149</u>			
<b>Purge Characterization</b>							
SITE NAME: CDF-Laytonville				LOCATION: Laytonville, CA			
WELL I.D.: MW-1				DATE PURGED: 05/17/06			
PURGED/SAMPLED BY: S. Callahan				DATE SAMPLED: 05/17/06 : 1311			
DEPTH TO BOTTOM (feet): 20.68				DEPTH TO WATER: 0.15			
WATER COLUMN HEIGHT (feet): 20.53				CALCULATED PURGE (gallons): 9.85			
CASING VOLUME (gallons): 3.28				ACTUAL PURGE (gallons): 6.6			
Development: _____ Quarterly: <u>X</u> Biannual: _____ Other: _____							
Sample Type: Groundwater: <u>X</u> Surface Water: _____ Other: _____							
Casing Diameter: 2" <u>X</u> 3" _____ 4" _____ 5" _____ 6" _____ 8" _____							
Casing Volume (0.16) (0.38) (0.66) (1.02) (1.50) (2.60)							
<b>FIELD MEASUREMENTS</b>							
VOLUME (gallons)	TIME (2400hr)	TEMP (degrees F)	pH (units)	CONDUCTIVITY (umhos/cm)	DISOLVED OXYGEN (mg/L)	TURBIDITY (NTU)	
0	1303	22.6	7.58	344.5	_____	8.75	
3.3	1306	22.2	7.54	339.3	_____	8.69	
6.6	1309	23.7	7.62	388.3	_____	26.87	
_____	_____	_____	_____	_____	_____	_____	
_____	_____	_____	_____	_____	_____	_____	
_____	_____	_____	_____	_____	_____	_____	
<b>SAMPLE INFORMATION</b>							
SAMPLE #: MW-1				ANALYSIS: See COC			
QUANTITY: 3				LAB: McCampbell Analytical			
VOLUME: 50-ml							
TYPE: VOA							
PRESERVATION: HCL							
<b>PURGING EQUIPMENT</b>				<b>SAMPLING EQUIPMENT</b>			
_____ Centrifugal Pump				_____ Centrifugal Pump			
<u>X</u> Submersible Pump				<u>X</u> Submersible Pump			
_____ Peristaltic Pump				_____ Peristaltic Pump			
_____ Purge Pump				_____ Purge Pump			
_____ Bailer (Teflon)				_____ Bailer (Teflon)			
_____ Bailer (PVC or disposable)				_____ Bailer (PVC or disposable)			
_____ Bailer (stainless steel)				_____ Bailer (stainless steel)			
_____ Other: _____				_____ Other: _____			
Comments: Located under manhole labeled "water", probably should have crowbar for future access. Sampled prior to well going completely dry.							

<b>KLEINFELDER</b>				PROJECT NO: <u>68149</u>			
<b>Purge Characterization</b>							
SITE NAME: CDF-Laytonville				LOCATION: Laytonville, CA			
WELL I.D.: MW-2				DATE PURGED: 05/17/06			
PURGED/SAMPLED BY: S. Callahan				DATE SAMPLED: 5/17/06 : 1648			
DEPTH TO BOTTOM (feet): 10.93				DEPTH TO WATER: 5.91			
WATER COLUMN HEIGHT (feet): 5.02				CALCULATED PURGE (gallons): 9.93			
CASING VOLUME (gallons): 3.31				ACTUAL PURGE (gallons): 9.93			
Development: _____ Quarterly: <u>  X  </u> Biannual: _____ Other: _____ Sample Type:           Groundwater: <u>  X  </u> Surface Water: _____ Other: _____ Casing Diameter:    2" _____ 3" _____ 4" <u>  X  </u> 5" _____ 6" _____ 8" _____ Casing Volume               (0.16)       (0.38)       (0.66)       (1.02)       (1.50)       (2.60)							
<b>FIELD MEASUREMENTS</b>							
VOLUME (gallons)	TIME (2400hr)	TEMP (degrees F)	pH (units)	CONDUCTIVITY (umhos/cm)	DISOLVED OXYGEN (mg/L)	TURBIDITY (NTU)	
0	1637	23.7	7.14	598.4	_____	176	
3.3	1640	19.6	7.05	607.4	_____	334	
6.6	1643	20	7.03	596.6	_____	303	
9.93	1646	18.8	7.02	603.2	_____	293	
_____	_____	_____	_____	_____	_____	_____	
_____	_____	_____	_____	_____	_____	_____	
<b>SAMPLE INFORMATION</b>							
SAMPLE #: MW-2				ANALYSIS: See COC			
QUANTITY: 3				LAB: McCampbell Analytical			
VOLUME: 50-ml							
TYPE: VOA							
PRESERVATION: HCL							
<b>PURGING EQUIPMENT</b>				<b>SAMPLING EQUIPMENT</b>			
<input type="checkbox"/> Centrifugal Pump <input checked="" type="checkbox"/> Submersible Pump <input type="checkbox"/> Peristaltic Pump <input type="checkbox"/> Purge Pump <input type="checkbox"/> Bailer (Teflon) <input type="checkbox"/> Bailer (PVC or disposable) <input type="checkbox"/> Bailer (stainless steel) <input type="checkbox"/> Other: _____				<input type="checkbox"/> Centrifugal Pump <input checked="" type="checkbox"/> Submersible Pump <input type="checkbox"/> Peristaltic Pump <input type="checkbox"/> Purge Pump <input type="checkbox"/> Bailer (Teflon) <input type="checkbox"/> Bailer (PVC or disposable) <input type="checkbox"/> Bailer (stainless steel) <input type="checkbox"/> Other: _____			
Comments: <u>no casing cap</u>							

<b>KLEINFELDER</b>		PROJECT NO: <u>68149</u>				
<b>Purge Characterization</b>						
SITE NAME: CDF-Laytonville		LOCATION: Laytonville, CA				
WELL I.D.: MW-3		DATE PURGED: 5/17/06				
PURGED/SAMPLED BY: S. Callahan		DATE SAMPLED: 5/17/06 : 1341				
DEPTH TO BOTTOM (feet): 25.97		DEPTH TO WATER: 6.71				
WATER COLUMN HEIGHT (feet): 19.26		CALCULATED PURGE (gallons): 9.24				
CASING VOLUME (gallons): 3.08		ACTUAL PURGE (gallons): 6.16				
Development: _____ Quarterly: <input checked="" type="checkbox"/> Biannual: _____ Other: _____ Sample Type:      Groundwater: <input checked="" type="checkbox"/> Surface Water: _____ Other: _____ Casing Diameter:    2" <input checked="" type="checkbox"/> 3" _____ 4" _____ 5" _____ 6" _____ 8" _____ Casing Volume        (0.16)      (0.38)      (0.66)      (1.02)      (1.50)      (2.60)						
<b>FIELD MEASUREMENTS</b>						
VOLUME (gallons)	TIME (2400hr)	TEMP (degrees F)	pH (units)	CONDUCTIVITY (umhos/cm)	DISOLVED OXYGEN (mg/L)	TURBIDITY (NTU)
0	1333	27.1	7.39	487.4	_____	210
3.08	1336	22	7.41	500.1	_____	106
6.16	1339	27.5	7.4	507.5	_____	92
_____	_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____	_____
<b>SAMPLE INFORMATION</b>						
SAMPLE #: MW-3			ANALYSIS: See COC			
QUANTITY: 3			LAB: McCampbell Analytical			
VOLUME: 50-ml						
TYPE: VOA						
PRESERVATION: HCL						
<b>PURGING EQUIPMENT</b>				<b>SAMPLING EQUIPMENT</b>		
<input type="checkbox"/> Centrifugal Pump <input checked="" type="checkbox"/> Submersible Pump <input type="checkbox"/> Peristaltic Pump <input type="checkbox"/> Purge Pump <input type="checkbox"/> Bailer (Teflon) <input type="checkbox"/> Bailer (PVC or disposable) <input type="checkbox"/> Bailer (stainless steel) <input type="checkbox"/> Other: _____				<input type="checkbox"/> Centrifugal Pump <input checked="" type="checkbox"/> Submersible Pump <input type="checkbox"/> Peristaltic Pump <input type="checkbox"/> Purge Pump <input type="checkbox"/> Bailer (Teflon) <input type="checkbox"/> Bailer (PVC or disposable) <input type="checkbox"/> Bailer (stainless steel) <input type="checkbox"/> Other: _____		
Comments: odorous; going dry at 4 gal, sampled prior to well going completely dry at 6 gal						

<b>KLEINFELDER</b>		PROJECT NO: 68149				
<b>Purge Characterization</b>						
SITE NAME: CDF-Laytonville		LOCATION: Laytonville, CA				
WELL I.D.: MW-4		DATE PURGED: 5/17/06				
PURGED/SAMPLED BY: S. Callahan		DATE SAMPLED: 5/17/06 : 1448				
DEPTH TO BOTTOM (feet): 27.44		DEPTH TO WATER: 4.38				
WATER COLUMN HEIGHT (feet): 23.06		CALCULATED PURGE (gallons): 11.06				
CASING VOLUME (gallons): 3.68		ACTUAL PURGE (gallons): 7.5				
Development: _____ Quarterly: <input checked="" type="checkbox"/> Biannual: _____ Other: _____ Sample Type: Groundwater: <input checked="" type="checkbox"/> Surface Water: _____ Other: _____ Casing Diameter: 2" <input checked="" type="checkbox"/> 3" _____ 4" _____ 5" _____ 6" _____ 8" _____ Casing Volume (0.16) (0.38) (0.66) (1.02) (1.50) (2.60)						
<b>FIELD MEASUREMENTS</b>						
VOLUME (gallons)	TIME (2400hr)	TEMP (degrees F)	pH (units)	CONDUCTIVITY (umhos/cm)	DISOLVED OXYGEN (mg/L)	TURBIDITY (NTU)
0	1439	23.5	7.09	270	_____	112
3.7	1442	18.8	7.32	138.7	_____	43.08
7.5	1446	19.8	6.82	470.3	_____	18.36
_____	_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____	_____
<b>SAMPLE INFORMATION</b>						
SAMPLE #: MW-4				ANALYSIS: See COC		
QUANTITY: 3				LAB: McCampbell Analytical		
VOLUME: 50-ml						
TYPE: VOA						
PRESERVATION: HCL						
<b>PURGING EQUIPMENT</b>				<b>SAMPLING EQUIPMENT</b>		
<input type="checkbox"/> Centrifugal Pump <input checked="" type="checkbox"/> Submersible Pump <input type="checkbox"/> Peristaltic Pump <input type="checkbox"/> Purge Pump <input type="checkbox"/> Bailer (Teflon) <input type="checkbox"/> Bailer (PVC or disposable) <input type="checkbox"/> Bailer (stainless steel) <input type="checkbox"/> Other: _____				<input type="checkbox"/> Centrifugal Pump <input checked="" type="checkbox"/> Submersible Pump <input type="checkbox"/> Peristaltic Pump <input type="checkbox"/> Purge Pump <input type="checkbox"/> Bailer (Teflon) <input type="checkbox"/> Bailer (PVC or disposable) <input type="checkbox"/> Bailer (stainless steel) <input type="checkbox"/> Other: _____		
Comments: Located under manhole labeled "water", probably should have crowbar for future access. Well sampled prior to going completely dry at 7.5 gal						



<b>KLEINFELDER</b>		PROJECT NO: <u>68149</u>				
<b>Purge Characterization</b>						
SITE NAME: CDF-Laytonville		LOCATION: Laytonville, CA				
WELL I.D.: MW-5		DATE PURGED: 5/17/06				
PURGED/SAMPLED BY: S. Callahan		DATE SAMPLED: 5/17/06 : 1209				
DEPTH TO BOTTOM (feet): 14.80		DEPTH TO WATER: 1.90				
WATER COLUMN HEIGHT (feet): 12.9		CALCULATED PURGE (gallons): 25.54				
CASING VOLUME (gallons): 8.514		ACTUAL PURGE (gallons): 15				
Development: _____ Quarterly: <u>X</u> _____ Biannual: _____ Other: _____ Sample Type:            Groundwater: <u>X</u> _____ Surface Water: _____ Other: _____ Casing Diameter:      2" _____ 3" _____ 4" <u>X</u> _____ 5" _____ 6" _____ 8" _____ Casing Volume                (0.16)        (0.38)        (0.66)        (1.02)        (1.50)        (2.60)						
<b>FIELD MEASUREMENTS</b>						
VOLUME (gallons)	TIME (2400hr)	TEMP (degrees F)	pH (units)	CONDUCTIVITY (umhos/cm)	DISOLVED OXYGEN (mg/L)	TURBIDITY (NTU)
0	1157	22.5	8.6	106.8	_____	24.5
8.5	1203	21	7.55	83.54	_____	39.72
15	1211	20.7	7.55	96.14	_____	194
_____	_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____	_____
<b>SAMPLE INFORMATION</b>						
SAMPLE #: MW-5				ANALYSIS: See COC		
QUANTITY: 3				LAB: McCampbell Analytical		
VOLUME: 50-ml						
TYPE: VOA						
PRESERVATION: HCL						
<b>PURGING EQUIPMENT</b>				<b>SAMPLING EQUIPMENT</b>		
_____ Centrifugal Pump <u>X</u> _____ Submersible Pump _____ Peristaltic Pump _____ Purge Pump _____ Bailer (Teflon) _____ Bailer (PVC or disposable) _____ Bailer (stainless steel) _____ Other: _____				_____ Centrifugal Pump <u>X</u> _____ Submersible Pump _____ Peristaltic Pump _____ Purge Pump _____ Bailer (Teflon) _____ Bailer (PVC or disposable) _____ Bailer (stainless steel) _____ Other: _____		
Comments: Well sampled prior to going completely dry @ 15 gal						

<b>KLEINFELDER</b>		PROJECT NO: <u>68149</u>				
<b>Purge Characterization</b>						
SITE NAME: CDF-Laytonville		LOCATION: Laytonville, CA				
WELL I.D.: MW-6		DATE PURGED: 5/17/06				
PURGED/SAMPLED BY: S. Callahan		DATE SAMPLED: 5/17/06 : 1242				
DEPTH TO BOTTOM (feet): 19.40		DEPTH TO WATER: 2.75				
WATER COLUMN HEIGHT (feet): 16.65		CALCULATED PURGE (gallons): 32.96				
CASING VOLUME (gallons): 10.98		ACTUAL PURGE (gallons): 15				
Development: _____ Quarterly: <u>X</u> Biannual: _____ Other: _____ Sample Type: Groundwater: <u>X</u> Surface Water: _____ Other: _____ Casing Diameter: 2" _____ 3" _____ 4" <u>X</u> 5" _____ 6" _____ 8" _____ Casing Volume (0.16) (0.38) (0.66) (1.02) (1.50) (2.60)						
<b>FIELD MEASUREMENTS</b>						
VOLUME (gallons)	TIME (2400hr)	TEMP (degrees F)	pH (units)	CONDUCTIVITY (umhos/cm)	DISOLVED OXYGEN (mg/L)	TURBIDITY (NTU)
0	1225	27.9	7.1	339.5	_____	380
11	1236	21.9	6.74	354.3	_____	207
15	1240	22.7	6.83	349.9	_____	206
_____	_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____	_____
<b>SAMPLE INFORMATION</b>						
SAMPLE #: MW-6				ANALYSIS: See COC		
QUANTITY: 3				LAB: McCampbell Analytical		
VOLUME: 50-ml						
TYPE: VOA						
PRESERVATION: HCL						
<b>PURGING EQUIPMENT</b>				<b>SAMPLING EQUIPMENT</b>		
<input type="checkbox"/> Centrifugal Pump <input checked="" type="checkbox"/> Submersible Pump <input type="checkbox"/> Peristaltic Pump <input type="checkbox"/> Purge Pump <input type="checkbox"/> Bailer (Teflon) <input type="checkbox"/> Bailer (PVC or disposable) <input type="checkbox"/> Bailer (stainless steel) <input type="checkbox"/> Other: _____				<input type="checkbox"/> Centrifugal Pump <input checked="" type="checkbox"/> Submersible Pump <input type="checkbox"/> Peristaltic Pump <input type="checkbox"/> Purge Pump <input type="checkbox"/> Bailer (Teflon) <input type="checkbox"/> Bailer (PVC or disposable) <input type="checkbox"/> Bailer (stainless steel) <input type="checkbox"/> Other: _____		
Comments: strong gasoline smell; well sampled prior to going completely dry at 15 gal						

<b>KLEINFELDER</b>		PROJECT NO: <u>68149</u>				
<b>Purge Characterization</b>						
SITE NAME: CDF-Laytonville		LOCATION: Laytonville, CA				
WELL I.D.: MW-7		DATE PURGED: 5/17/06				
PURGED/SAMPLED BY: S. Callahan		DATE SAMPLED: 5/17/06 : 1432				
DEPTH TO BOTTOM (feet): 19.69		DEPTH TO WATER: 5.0				
WATER COLUMN HEIGHT (feet): 14.69		CALCULATED PURGE (gallons): 29.08				
CASING VOLUME (gallons): 9.69		ACTUAL PURGE (gallons): 29.1				
Development: _____ Quarterly: <input checked="" type="checkbox"/> Biannual: _____ Other: _____ Sample Type:            Groundwater: <input checked="" type="checkbox"/> Surface Water: _____ Other: _____ Casing Diameter:        2" _____ 3" _____ 4" <input checked="" type="checkbox"/> 5" _____ 6" _____ 8" _____ Casing Volume            (0.16)        (0.38)        (0.66)        (1.02)        (1.50)        (2.60)						
<b>FIELD MEASUREMENTS</b>						
VOLUME (gallons)	TIME (2400hr)	TEMP (degrees F)	pH (units)	CONDUCTIVITY (umhos/cm)	DISOLVED OXYGEN (mg/L)	TURBIDITY (NTU)
0	1400	21	8.8	113.1	_____	40.52
9.7	1409	19.1	8.46	94.31	_____	10.64
19.4	1419	16.5	7.63	118.4	_____	24.09
29.1	1429	17.8	7.65	127.8	_____	23.89
_____	_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____	_____
<b>SAMPLE INFORMATION</b>						
SAMPLE #: MW-7			ANALYSIS: See COC			
QUANTITY: 3			LAB: McCampbell Analytical			
VOLUME: 50-ml						
TYPE: VOA						
PRESERVATION: HCL						
<b>PURGING EQUIPMENT</b>				<b>SAMPLING EQUIPMENT</b>		
<input type="checkbox"/> Centrifugal Pump <input checked="" type="checkbox"/> Submersible Pump <input type="checkbox"/> Peristaltic Pump <input type="checkbox"/> Purge Pump <input type="checkbox"/> Bailer (Teflon) <input type="checkbox"/> Bailer (PVC or disposable) <input type="checkbox"/> Bailer (stainless steel) <input type="checkbox"/> Other: _____				<input type="checkbox"/> Centrifugal Pump <input checked="" type="checkbox"/> Submersible Pump <input type="checkbox"/> Peristaltic Pump <input type="checkbox"/> Purge Pump <input type="checkbox"/> Bailer (Teflon) <input type="checkbox"/> Bailer (PVC or disposable) <input type="checkbox"/> Bailer (stainless steel) <input type="checkbox"/> Other: _____		
Comments:						

<b>KLEINFELDER</b>	PROJECT NO: 68149					
<b>Purge Characterization</b>						
SITE NAME: CDF-Laytonville	LOCATION: Laytonville, CA					
WELL I.D.: MW-8	DATE PURGED: 5/17/06					
PURGED/SAMPLED BY: S. Callahan	DATE SAMPLED: 5/17/06 : 1520					
DEPTH TO BOTTOM (feet): 18.65	DEPTH TO WATER: 4.09					
WATER COLUMN HEIGHT (feet): 14.56	CALCULATED PURGE (gallons): 28.82					
CASING VOLUME (gallons): 9.609	ACTUAL PURGE (gallons): 14.5					
Development: _____ Quarterly: <input checked="" type="checkbox"/> Biannual: _____ Other: _____ Sample Type: Groundwater: <input checked="" type="checkbox"/> Surface Water: _____ Other: _____ Casing Diameter: 2" _____ 3" _____ 4" <input checked="" type="checkbox"/> 5" _____ 6" _____ 8" _____ Casing Volume (0.16) (0.38) (0.66) (1.02) (1.50) (2.60)						
<b>FIELD MEASUREMENTS</b>						
VOLUME (gallons)	TIME (2400hr)	TEMP (degrees F)	pH (units)	CONDUCTIVITY (umhos/cm)	DISOLVED OXYGEN (mg/L)	TURBIDITY (NTU)
0	1504	23	7.31	700.9	_____	21.98
9.61	1513	18.8	6.57	695	_____	22.84
14.5	1518	20.9	6.88	767.5	_____	26.7
_____	_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____	_____
<b>SAMPLE INFORMATION</b>						
SAMPLE #: MW-8			ANALYSIS: See COC			
QUANTITY: 3			LAB: McCampbell Analytical			
VOLUME: 50-ml						
TYPE: VOA						
PRESERVATION: HCL						
<b>PURGING EQUIPMENT</b>				<b>SAMPLING EQUIPMENT</b>		
<input type="checkbox"/> Centrifugal Pump <input checked="" type="checkbox"/> Submersible Pump <input type="checkbox"/> Peristaltic Pump <input type="checkbox"/> Purge Pump <input type="checkbox"/> Bailer (Teflon) <input type="checkbox"/> Bailer (PVC or disposable) <input type="checkbox"/> Bailer (stainless steel) <input type="checkbox"/> Other: _____				<input type="checkbox"/> Centrifugal Pump <input checked="" type="checkbox"/> Submersible Pump <input type="checkbox"/> Peristaltic Pump <input type="checkbox"/> Purge Pump <input type="checkbox"/> Bailer (Teflon) <input type="checkbox"/> Bailer (PVC or disposable) <input type="checkbox"/> Bailer (stainless steel) <input type="checkbox"/> Other: _____		
Comments: strong gasoline smell, surface water over top of casing, bailed before opening cap Well sampled prior to going completely dry at 14.5 gal						

<b>KLEINFELDER</b>	PROJECT NO: 68149					
<b>Purge Characterization</b>						
SITE NAME: CDF-Laytonville	LOCATION: Laytonville, CA					
WELL I.D.: MW-9	DATE PURGED: 5/17/06					
PURGED/SAMPLED BY: S. Callahan	DATE SAMPLED: 5/17/06 : 1619					
DEPTH TO BOTTOM (feet): 19.72	DEPTH TO WATER: 5.66					
WATER COLUMN HEIGHT (feet): 14.06	CALCULATED PURGE (gallons): 27.83					
CASING VOLUME (gallons): 9.27	ACTUAL PURGE (gallons): 18.6					
Development: _____ Quarterly: <input checked="" type="checkbox"/> Biannual: _____ Other: _____ Sample Type: Groundwater: <input checked="" type="checkbox"/> Surface Water: _____ Other: _____ Casing Diameter: 2" _____ 3" _____ 4" <input checked="" type="checkbox"/> 5" _____ 6" _____ 8" _____ Casing Volume (0.16) (0.38) (0.66) (1.02) (1.50) (2.60)						
<b>FIELD MEASUREMENTS</b>						
VOLUME (gallons)	TIME (2400hr)	TEMP (degrees F)	pH (units)	CONDUCTIVITY (umhos/cm)	DISOLVED OXYGEN (mg/L)	TURBIDITY (NTU)
0	1559	21.1	6.8	413.8	_____	43.98
9.3	1608	19.9	6.92	414.4	_____	41.57
18.6	1617	17.5	6.71	416.6	_____	0.23
_____	_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____	_____
<b>SAMPLE INFORMATION</b>						
SAMPLE #: MW-9		ANALYSIS: See COC				
QUANTITY: 3		LAB: McCampbell Analytical				
VOLUME: 50-ml						
TYPE: VOA						
PRESERVATION: HCL						
<b>PURGING EQUIPMENT</b>				<b>SAMPLING EQUIPMENT</b>		
<input type="checkbox"/> Centrifugal Pump <input checked="" type="checkbox"/> Submersible Pump <input type="checkbox"/> Peristaltic Pump <input type="checkbox"/> Purge Pump <input type="checkbox"/> Bailer (Teflon) <input type="checkbox"/> Bailer (PVC or disposable) <input type="checkbox"/> Bailer (stainless steel) <input type="checkbox"/> Other: _____				<input type="checkbox"/> Centrifugal Pump <input checked="" type="checkbox"/> Submersible Pump <input type="checkbox"/> Peristaltic Pump <input type="checkbox"/> Purge Pump <input type="checkbox"/> Bailer (Teflon) <input type="checkbox"/> Bailer (PVC or disposable) <input type="checkbox"/> Bailer (stainless steel) <input type="checkbox"/> Other: _____		
Comments: Well sampled prior to going dry at 18.6 gal						

<b>KLEINFELDER</b>	PROJECT NO: <u>68149</u>					
<b>Purge Characterization</b>						
SITE NAME: CDF-Laytonville	LOCATION: Laytonville, CA					
WELL I.D.: MW-10	DATE PURGED: 5/17/06					
PURGED/SAMPLED BY: S. Callahan	DATE SAMPLED: 5/17/06 : 1730					
DEPTH TO BOTTOM (feet): 19.61	DEPTH TO WATER: 7.75					
WATER COLUMN HEIGHT (feet): 11.86	CALCULATED PURGE (gallons): 23.48					
CASING VOLUME (gallons): 7.82	ACTUAL PURGE (gallons): 23.5					
Development: _____ Quarterly: <input checked="" type="checkbox"/> Biannual: _____ Other: _____ Sample Type:      Groundwater: <input checked="" type="checkbox"/> Surface Water: _____ Other: _____ Casing Diameter:    2" _____ 3" _____ 4" <input checked="" type="checkbox"/> 5" _____ 6" _____ 8" _____ Casing Volume        (0.16)      (0.38)      (0.66)      (1.02)      (1.50)      (2.60)						
<b>FIELD MEASUREMENTS</b>						
VOLUME (gallons)	TIME (2400hr)	TEMP (degrees F)	pH (units)	CONDUCTIVITY (umhos/cm)	DISOLVED OXYGEN (mg/L)	TURBIDITY (NTU)
0	1707	21.5	8.2	283.3	_____	365
7.8	1712	17.3	8.01	272.2	_____	14.37
15.6	1720	16.5	7.84	291.2	_____	54
23.5	1727	16.5	7.81	265.2	_____	31.92
_____	_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____	_____
<b>SAMPLE INFORMATION</b>						
SAMPLE #: MW-10			ANALYSIS: See COC			
QUANTITY: 3			LAB: McCampbell Analytical			
VOLUME: 50-ml						
TYPE: VOA						
PRESERVATION: HCL						
<b>PURGING EQUIPMENT</b>				<b>SAMPLING EQUIPMENT</b>		
<input type="checkbox"/> Centrifugal Pump <input checked="" type="checkbox"/> Submersible Pump <input type="checkbox"/> Peristaltic Pump <input type="checkbox"/> Purge Pump <input type="checkbox"/> Bailer (Teflon) <input type="checkbox"/> Bailer (PVC or disposable) <input type="checkbox"/> Bailer (stainless steel) <input type="checkbox"/> Other: _____				<input type="checkbox"/> Centrifugal Pump <input checked="" type="checkbox"/> Submersible Pump <input type="checkbox"/> Peristaltic Pump <input type="checkbox"/> Purge Pump <input type="checkbox"/> Bailer (Teflon) <input type="checkbox"/> Bailer (PVC or disposable) <input type="checkbox"/> Bailer (stainless steel) <input type="checkbox"/> Other: _____		
Comments: slight to moderate gasoline odor						

<b>KLEINFELDER</b>	PROJECT NO: <u>68149</u>					
<b>Purge Characterization</b>						
SITE NAME: CDF-Laytonville	LOCATION: Laytonville, CA					
WELL I.D.: MW-11	DATE PURGED: 5/17/06					
PURGED/SAMPLED BY: S. Callahan	DATE SAMPLED: 5/17/06 : 1342					
DEPTH TO BOTTOM (feet): 19.82	DEPTH TO WATER: 5.52					
WATER COLUMN HEIGHT (feet): 14.3	CALCULATED PURGE (gallons): 6.864					
CASING VOLUME (gallons): 2.28	ACTUAL PURGE (gallons): 5					
Development: _____ Quarterly: <input checked="" type="checkbox"/> Biannual: _____ Other: _____ Sample Type:      Groundwater: <input checked="" type="checkbox"/> Surface Water: _____ Other: _____ Casing Diameter:    2" <input checked="" type="checkbox"/> 3" _____ 4" _____ 5" _____ 6" _____ 8" _____ Casing Volume        (0.16)      (0.38)      (0.66)      (1.02)      (1.50)      (2.60)						
<b>FIELD MEASUREMENTS</b>						
VOLUME (gallons)	TIME (2400hr)	TEMP (degrees F)	pH (units)	CONDUCTIVITY (umhos/cm)	DISOLVED OXYGEN (mg/L)	TURBIDITY (NTU)
0	1536	23	7.16	476.6	_____	28.45
2.3	1538	18	7.01	467.4	_____	24.3
4.6	1540	16.8	6.7	471.8	_____	14.84
5	1541	18.5	6.65	469.4	_____	47.66
_____	_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____	_____
<b>SAMPLE INFORMATION</b>						
SAMPLE #: MW-11			ANALYSIS: See COC			
QUANTITY: 3			LAB: McCampbell Analytical			
VOLUME: 50-ml						
TYPE: VOA						
PRESERVATION: HCL						
<b>PURGING EQUIPMENT</b>				<b>SAMPLING EQUIPMENT</b>		
<input type="checkbox"/> Centrifugal Pump <input checked="" type="checkbox"/> Submersible Pump <input type="checkbox"/> Peristaltic Pump <input type="checkbox"/> Purge Pump <input type="checkbox"/> Bailer (Teflon) <input type="checkbox"/> Bailer (PVC or disposable) <input type="checkbox"/> Bailer (stainless steel) <input type="checkbox"/> Other: _____				<input type="checkbox"/> Centrifugal Pump <input checked="" type="checkbox"/> Submersible Pump <input type="checkbox"/> Peristaltic Pump <input type="checkbox"/> Purge Pump <input type="checkbox"/> Bailer (Teflon) <input type="checkbox"/> Bailer (PVC or disposable) <input type="checkbox"/> Bailer (stainless steel) <input type="checkbox"/> Other: _____		
Comments: This well needs a hex wrench tool to open monument box. Well was sampled prior to going completely dry at 5 gal						

<b>KLEINFELDER</b>	PROJECT NO: <u>68149</u>					
<b>Purge Characterization</b>						
SITE NAME: CDF-Laytonville	LOCATION: Laytonville, CA					
WELL I.D.: Supply Well	DATE PURGED: 5/17/06					
PURGED/SAMPLED BY: S. Callahan	DATE SAMPLED: 5/17/06 : 1259					
DEPTH TO BOTTOM (feet): NA	DEPTH TO WATER: NA					
WATER COLUMN HEIGHT (feet): NA	CALCULATED PURGE (gallons): NA					
CASING VOLUME (gallons): NA	ACTUAL PURGE (gallons): 10					
Development: _____ Quarterly: <u>  X  </u> Biannual: _____ Other: _____ Sample Type:        Groundwater: <u>  X  </u> Surface Water: _____ Other: _____ Casing Diameter:    2" _____ 3" _____ 4" _____ 5" _____ 6" _____ 8" _____ Casing Volume        (0.16)    (0.38)    (0.66)    (1.02)    (1.50)    (2.60)						
<b>FIELD MEASUREMENTS</b>						
VOLUME (gallons)	TIME (2400hr)	TEMP (degrees F)	pH (units)	CONDUCTIVITY (umhos/cm)	DISOLVED OXYGEN (mg/L)	TURBIDITY (NTU)
5	1255	26	6.95	387.3	_____	0
_____	_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____	_____
<b>SAMPLE INFORMATION</b>						
SAMPLE #: SW				ANALYSIS: See COC		
QUANTITY: 3				LAB: McCampbell Analytical		
VOLUME: 50-ml						
TYPE: VOA						
PRESERVATION: HCL						
<b>PURGING EQUIPMENT</b>				<b>SAMPLING EQUIPMENT</b>		
<input type="checkbox"/> Centrifugal Pump <input type="checkbox"/> Submersible Pump <input type="checkbox"/> Peristaltic Pump <input type="checkbox"/> Purge Pump <input type="checkbox"/> Bailer (Teflon) <input type="checkbox"/> Bailer (PVC or disposable) <input type="checkbox"/> Bailer (stainless steel) <input type="checkbox"/> Other: <u>  Drain faucet into bucket  </u>				<input type="checkbox"/> Centrifugal Pump <input type="checkbox"/> Submersible Pump <input type="checkbox"/> Peristaltic Pump <input type="checkbox"/> Purge Pump <input type="checkbox"/> Bailer (Teflon) <input type="checkbox"/> Bailer (PVC or disposable) <input type="checkbox"/> Bailer (stainless steel) <input type="checkbox"/> Other: <u>  hand fill from faucet  </u>		
Comments: This source water sample was collected from faucet adjacent to northeast corner of CDF office.						



# McC Campbell Analytical, Inc.

110 Second Avenue South, #D7  
Pacheco, CA 94553-5560  
(925) 798-1620

# CHAIN-OF-CUSTODY RECORD

WorkOrder: 0605384 ClientID: KFF EDF: NO

Report to: Sarah Callahan TEL: (707) 429-4070 Requested TAT: 5 days  
Kleinfelder, Inc. FAX: (707) 429-4162  
780 Chadbourne Rd, Ste. D ProjectNo: #68149 Task 1; CDF-Laytonville Date Received: 05/18/2006  
Fairfield, CA 94534 PO: Date Printed: 05/18/2006

Bill to: Accounts Payable  
Kleinfelder Inc.  
780 Chadbourne Rd, Ste. D  
Fairfield, CA 94585-9643

Sample ID	ClientSampleID	Matrix	Collection Date	Hold	1	2	3	4	5	6	7	8	9	10	11	12
-----------	----------------	--------	-----------------	------	---	---	---	---	---	---	---	---	---	----	----	----

0605384-001	MW-1	Water	5/17/06 1:11:00 PM	<input type="checkbox"/>	B	A										
0605384-002	MW-2	Water	5/17/06 4:48:00 PM	<input type="checkbox"/>	B	A										
0605384-003	MW-3	Water	5/17/06 1:41:00 PM	<input type="checkbox"/>	B	A										
0605384-004	MW-4	Water	5/17/06 2:48:00 PM	<input type="checkbox"/>	B	A										
0605384-005	MW-5	Water	5/17/06 12:09:00	<input type="checkbox"/>	B	A										
0605384-006	MW-6	Water	5/17/06 12:42:00	<input type="checkbox"/>	B	A										
0605384-007	MW-7	Water	5/17/06 2:32:00 PM	<input type="checkbox"/>	B	A										
0605384-008	MW-8	Water	5/17/06 3:20:00 PM	<input type="checkbox"/>	B	A										
0605384-009	MW-9	Water	5/17/06 4:19:00 PM	<input type="checkbox"/>	B	A										
0605384-010	MW-10	Water	5/17/06 5:30:00 PM	<input type="checkbox"/>	B	A										
0605384-011	MW-11	Water	5/17/06 1:42:00 PM	<input type="checkbox"/>	B	A										
0605384-012	SW	Water	5/17/06 12:59:00	<input type="checkbox"/>	B	A										
0605384-013	TB	Water	5/17/06 12:46:00	<input type="checkbox"/>	B	A										

## Test Legend:

1	8260B W	2	G-MBTX W	3		4		5	
6		7		8		9		10	
11		12							

## Comments:

Prepared by: Maria Venegas

NOTE: Samples are discarded 60 days after results are reported unless other arrangements are made. Hazardous samples will be returned to client or disposed of at client expense.





# McC Campbell Analytical, Inc.

110 2nd Avenue South, #D7, Pacheco, CA 94553-5560  
Telephone : 925-798-1620 Fax : 925-798-1622  
Website: www.mcccampbell.com E-mail: main@mcccampbell.com

Kleinfelder, Inc.  
780 Chadbourne Rd, Ste. D  
Fairfield, CA 94534

Client Project ID: #68149 Task 1;  
CDF-Laytonville

Client Contact: Sarah Callahan

Client P.O.:

Date Sampled: 05/17/06

Date Received: 05/18/06

Date Extracted: 05/19/06-05/24/06

Date Analyzed: 05/19/06-05/24/06

## Gasoline Range (C6-C12) Volatile Hydrocarbons as Gasoline with BTEX and MTBE\*

Extraction method: SW5030B

Analytical methods: SW9021B/8015Cm

Work Order: 0605384

Lab ID	Client ID	Matrix	TPH(g)	DF	% SS
001A	MW-1	W	210,a	1	112
002A	MW-2	W	3000,a	1	107
003A	MW-3	W	1900,a	1	--#
004A	MW-4	W	ND	1	99
005A	MW-5	W	ND	1	101
006A	MW-6	W	810,a,i	2	106
007A	MW-7	W	ND	1	103
008A	MW-8	W	150,a	1	117
009A	MW-9	W	6000,a	5	110
010A	MW-10	W	ND	1	94
011A	MW-11	W	ND	1	109
012A	SW	W	ND	1	110
013A	TB	W	ND	1	105

Reporting Limit for DF=1;  
ND means not detected at or  
above the reporting limit

W

50

µg/L

S

NA

NA

\* water and vapor samples and all TCLP & SPLP extracts are reported in µg/L, soil/sludge/solid samples in mg/kg, wipe samples in µg/wipe, product/oil/non-aqueous liquid samples in mg/L.

# cluttered chromatogram; sample peak coelutes with surrogate peak.

+The following descriptions of the TPH chromatogram are cursory in nature and McC Campbell Analytical is not responsible for their interpretation: a) unmodified or weakly modified gasoline is significant; b) heavier gasoline range compounds are significant(aged gasoline?); c) lighter gasoline range compounds (the most mobile fraction) are significant; d) gasoline range compounds having broad chromatographic peaks are significant; biologically altered gasoline?; e) TPH pattern that does not appear to be derived from gasoline (stoddard solvent / mineral spirit?); f) one to a few isolated non-target peaks present; g) strongly aged gasoline or diesel range compounds are significant; h) lighter than water immiscible sheen/product is present; i) liquid sample that contains greater than ~1 vol. % sediment; j) reporting limit raised due to high MTBE content; k) TPH pattern that does not appear to be derived from gasoline (aviation gas). m) no recognizable pattern; n) TPH(g) range non-target isolated peaks subtracted out of the TPH(g) concentration at the client's request; p) see attached narrative.

DHS Certification No. 1644

*Angela Rydelius* Angela Rydelius, Lab Manager



# McC Campbell Analytical, Inc.

110 2nd Avenue South, #D7, Pacifico, CA 94553-5560  
Telephone: 925-798-1620 Fax: 925-798-1622  
Website: www.mcccampbell.com E-mail: main@mcccampbell.com

Kleinfelder, Inc.

780 Chadbourne Rd, Ste. D

Fairfield, CA 94534

Client Project ID: #68149 Task 1;  
CDF-Laytonville

Client Contact: Sarah Callahan

Client P.O.:

Date Sampled: 05/17/06

Date Received: 05/18/06

Date Extracted: 05/18/06

Date Analyzed: 05/18/06

## Volatile Organics by P&T and GC/MS (Basic Target List)\*

Extraction Method: SW5030B

Analytical Method: SW8260B

Work Order: 0605384

Lab ID

0605384-003B

Client ID

MW-3

Matrix

Water

Compound	Concentration *	DF	Reporting Limit	Compound	Concentration *	DF	Reporting Limit
Acetone	ND	1.0	5.0	Acrolein (Propenal)	ND	1.0	5.0
Acrylonitrile	ND	1.0	2.0	tert-Amyl methyl ether (TAME)	ND	1.0	0.5
Benzene	>270,p	1.0	0.5	Bromobenzene	ND	1.0	0.5
Bromochloromethane	ND	1.0	0.5	Bromodichloromethane	ND	1.0	0.5
Bromoform	ND	1.0	0.5	Bromomethane	ND	1.0	0.5
2-Butanone (MEK)	8.9	1.0	2.0	t-Butyl alcohol (TBA)	16	1.0	5.0
n-Butyl benzene	ND	1.0	0.5	sec-Butyl benzene	ND	1.0	0.5
tert-Butyl benzene	ND	1.0	0.5	Carbon Disulfide	ND	1.0	0.5
Carbon Tetrachloride	ND	1.0	0.5	Chlorobenzene	ND	1.0	0.5
Chloroethane	ND	1.0	0.5	2-Chloroethyl Vinyl Ether	ND	1.0	1.0
Chloroform	ND	1.0	0.5	Chloromethane	ND	1.0	0.5
2-Chlorotoluene	ND	1.0	0.5	4-Chlorotoluene	ND	1.0	0.5
Dibromochloromethane	ND	1.0	0.5	1,2-Dibromo-3-chloropropane	ND	1.0	0.5
1,2-Dibromoethane (EDB)	ND	1.0	0.5	Dibromomethane	ND	1.0	0.5
1,2-Dichlorobenzene	ND	1.0	0.5	1,3-Dichlorobenzene	ND	1.0	0.5
1,4-Dichlorobenzene	ND	1.0	0.5	Dichlorodifluoromethane	ND	1.0	0.5
1,1-Dichloroethane	ND	1.0	0.5	1,2-Dichloroethane (1,2-DCA)	ND	1.0	0.5
1,1-Dichloroethene	ND	1.0	0.5	cis-1,2-Dichloroethene	ND	1.0	0.5
trans-1,2-Dichloroethene	ND	1.0	0.5	1,2-Dichloropropane	ND	1.0	0.5
1,3-Dichloropropane	ND	1.0	0.5	2,2-Dichloropropane	ND	1.0	0.5
1,1-Dichloropropene	ND	1.0	0.5	cis-1,3-Dichloropropene	ND	1.0	0.5
trans-1,3-Dichloropropene	ND	1.0	0.5	Diisopropyl ether (DIPE)	ND	1.0	0.5
Ethylbenzene	ND	1.0	0.5	Ethyl tert-butyl ether (ETBE)	ND	1.0	0.5
Freon 113	ND	1.0	10	Hexachlorobutadiene	ND	1.0	0.5
Hexachloroethane	ND	1.0	0.5	2-Hexanone	ND	1.0	0.5
Isopropylbenzene	ND	1.0	0.5	4-Isopropyl toluene	ND	1.0	0.5
Methyl-t-butyl ether (MTBE)	ND	1.0	0.5	Methylene chloride	ND	1.0	0.5
4-Methyl-2-pentanone (MIBK)	ND	1.0	0.5	Naphthalene	ND	1.0	0.5
Nitrobenzene	ND	1.0	10	n-Propyl benzene	ND	1.0	0.5
Styrene	ND	1.0	0.5	1,1,1,2-Tetrachloroethane	ND	1.0	0.5
1,1,2,2-Tetrachloroethane	ND	1.0	0.5	Tetrachloroethene	ND	1.0	0.5
Toluene	7.2	1.0	0.5	1,2,3-Trichlorobenzene	ND	1.0	0.5
1,2,4-Trichlorobenzene	ND	1.0	0.5	1,1,1-Trichloroethane	ND	1.0	0.5
1,1,2-Trichloroethane	ND	1.0	0.5	Trichloroethene	ND	1.0	0.5
Trichlorofluoromethane	ND	1.0	0.5	1,2,3-Trichloropropane	ND	1.0	0.5
1,2,4-Trimethylbenzene	ND	1.0	0.5	1,3,5-Trimethylbenzene	3.1	1.0	0.5
Vinyl Chloride	ND	1.0	0.5	Xylenes	3.7	1.0	0.5

### Surrogate Recoveries (%)

%SS1:

99

%SS2:

87

%SS3:

96

Comments: p

\* water and vapor samples are reported in µg/L, soil/sludge/solid samples in mg/kg, product/oil/non-aqueous liquid samples and all TCLP & SPLP extracts are reported in mg/L, wipe samples in µg/wipe.

ND means not detected above the reporting limit; N/A means analyte not applicable to this analysis.

# surrogate diluted out of range or coelutes with another peak; &) low surrogate due to matrix interference.

h) lighter than water immiscible sheen/product is present; i) liquid sample that contains greater than ~1 vol. % sediment; j) sample diluted due to high organic content/matrix interference; k) reporting limit near, but not identical to our standard reporting limit due to variable Encore sample weight; m) reporting limit raised due to insufficient sample amount; n) results are reported on a dry weight basis; p) see attached narrative.



# McC Campbell Analytical, Inc.

110 2nd Avenue South, #D7, Pacheco, CA 94553-5560  
Telephone : 925-798-1620 Fax : 925-798-1622  
Website: www.mcccampbell.com E-mail: main@mcccampbell.com

Kleinfelder, Inc.

780 Chadbourne Rd, Ste. D

Fairfield, CA 94534

Client Project ID: #68149 Task 1;  
CDF-Laytonville

Client Contact: Sarah Callahan

Client P.O.:

Date Sampled: 05/17/06

Date Received: 05/18/06

Date Extracted: 05/18/06

Date Analyzed: 05/18/06

## Volatile Organics by P&T and GC/MS (Basic Target List)\*

Extraction Method: SW5030B

Analytical Method: SW8260B

Work Order: 0605384

Lab ID	0605384-004B						
Client ID	MW-4						
Matrix	Water						
Compound	Concentration *	DF	Reporting Limit	Compound	Concentration *	DF	Reporting Limit
Acetone	ND	1.0	5.0	Acrolein (Propenal)	ND	1.0	5.0
Acrylonitrile	ND	1.0	2.0	tert-Amyl methyl ether (TAME)	ND	1.0	0.5
Benzene	6.0	1.0	0.5	Bromobenzene	ND	1.0	0.5
Bromochloromethane	ND	1.0	0.5	Bromodichloromethane	ND	1.0	0.5
Bromoform	ND	1.0	0.5	Bromomethane	ND	1.0	0.5
2-Butanone (MEK)	ND	1.0	2.0	t-Butyl alcohol (TBA)	ND	1.0	5.0
n-Butyl benzene	ND	1.0	0.5	sec-Butyl benzene	ND	1.0	0.5
tert-Butyl benzene	ND	1.0	0.5	Carbon Disulfide	ND	1.0	0.5
Carbon Tetrachloride	ND	1.0	0.5	Chlorobenzene	ND	1.0	0.5
Chloroethane	ND	1.0	0.5	2-Chloroethyl Vinyl Ether	ND	1.0	1.0
Chloroform	ND	1.0	0.5	Chloromethane	ND	1.0	0.5
2-Chlorotoluene	ND	1.0	0.5	4-Chlorotoluene	ND	1.0	0.5
Dibromochloromethane	ND	1.0	0.5	1,2-Dibromo-3-chloropropane	ND	1.0	0.5
1,2-Dibromoethane (EDB)	ND	1.0	0.5	Dibromomethane	ND	1.0	0.5
1,2-Dichlorobenzene	ND	1.0	0.5	1,3-Dichlorobenzene	ND	1.0	0.5
1,4-Dichlorobenzene	ND	1.0	0.5	Dichlorodifluoromethane	ND	1.0	0.5
1,1-Dichloroethane	ND	1.0	0.5	1,2-Dichloroethane (1,2-DCA)	ND	1.0	0.5
1,1-Dichloroethene	ND	1.0	0.5	cis-1,2-Dichloroethene	ND	1.0	0.5
trans-1,2-Dichloroethene	ND	1.0	0.5	1,2-Dichloropropane	ND	1.0	0.5
1,3-Dichloropropane	ND	1.0	0.5	2,2-Dichloropropane	ND	1.0	0.5
1,1-Dichloropropene	ND	1.0	0.5	cis-1,3-Dichloropropene	ND	1.0	0.5
trans-1,3-Dichloropropene	ND	1.0	0.5	Diisopropyl ether (DIPE)	ND	1.0	0.5
Ethylbenzene	1.7	1.0	0.5	Ethyl tert-butyl ether (ETBE)	ND	1.0	0.5
Freon 113	ND	1.0	10	Hexachlorobutadiene	ND	1.0	0.5
Hexachloroethane	ND	1.0	0.5	2-Hexanone	ND	1.0	0.5
Isopropylbenzene	ND	1.0	0.5	4-Isopropyl toluene	ND	1.0	0.5
Methyl-t-butyl ether (MTBE)	ND	1.0	0.5	Methylene chloride	ND	1.0	0.5
4-Methyl-2-pentanone (MIBK)	ND	1.0	0.5	Naphthalene	ND	1.0	0.5
Nitrobenzene	ND	1.0	10	n-Propyl benzene	ND	1.0	0.5
Styrene	ND	1.0	0.5	1,1,1,2-Tetrachloroethane	ND	1.0	0.5
1,1,2,2-Tetrachloroethane	ND	1.0	0.5	Tetrachloroethene	ND	1.0	0.5
Toluene	ND	1.0	0.5	1,2,3-Trichlorobenzene	ND	1.0	0.5
1,2,4-Trichlorobenzene	ND	1.0	0.5	1,1,1-Trichloroethane	ND	1.0	0.5
1,1,2-Trichloroethane	ND	1.0	0.5	Trichloroethene	ND	1.0	0.5
Trichlorofluoromethane	ND	1.0	0.5	1,2,3-Trichloropropane	ND	1.0	0.5
1,2,4-Trimethylbenzene	ND	1.0	0.5	1,3,5-Trimethylbenzene	ND	1.0	0.5
Vinyl Chloride	ND	1.0	0.5	Xylenes	ND	1.0	0.5

### Surrogate Recoveries (%)

%SS1:	105	%SS2:	97
%SS3:	100		

### Comments:

\* water and vapor samples are reported in µg/L, soil/sludge/solid samples in mg/kg, product/oil/non-aqueous liquid samples and all TCLP & SPLP extracts are reported in mg/L, wipe samples in µg/wipe.

ND means not detected above the reporting limit; N/A means analyte not applicable to this analysis.

# surrogate diluted out of range or coelutes with another peak; &) low surrogate due to matrix interference.

h) lighter than water immiscible sheen/product is present; i) liquid sample that contains greater than ~1 vol. % sediment; j) sample diluted due to high organic content/matrix interference; k) reporting limit near, but not identical to our standard reporting limit due to variable Encore sample weight; m) reporting limit raised due to insufficient sample amount; n) results are reported on a dry weight basis; p) see attached narrative.



# McC Campbell Analytical, Inc.

110 2nd Avenue South, #D7, Pacheco, CA 94553-5560  
Telephone : 925-798-1620 Fax : 925-798-1622  
Website: www.mcccampbell.com E-mail: main@mcccampbell.com

Kleinfelder, Inc.

780 Chadbourne Rd, Ste. D

Fairfield, CA 94534

Client Project ID: #68149 Task 1;  
CDF-Laytonville

Client Contact: Sarah Callahan

Client P.O.:

Date Sampled: 05/17/06

Date Received: 05/18/06

Date Extracted: 05/18/06

Date Analyzed: 05/18/06

## Volatile Organics by P&T and GC/MS (Basic Target List)\*

Extraction Method: SW5030B

Analytical Method: SW8260B

Work Order: 0605384

Lab ID	0605384-005B						
Client ID	MW-5						
Matrix	Water						
Compound	Concentration *	DF	Reporting Limit	Compound	Concentration *	DF	Reporting Limit
Acetone	ND	1.0	5.0	Acrolein (Propenal)	ND	1.0	5.0
Acrylonitrile	ND	1.0	2.0	tert-Amyl methyl ether (TAME)	ND	1.0	0.5
Benzene	ND	1.0	0.5	Bromobenzene	ND	1.0	0.5
Bromochloromethane	ND	1.0	0.5	Bromodichloromethane	ND	1.0	0.5
Bromoform	ND	1.0	0.5	Bromomethane	ND	1.0	0.5
2-Butanone (MEK)	ND	1.0	2.0	t-Butyl alcohol (TBA)	ND	1.0	5.0
n-Butyl benzene	ND	1.0	0.5	sec-Butyl benzene	ND	1.0	0.5
tert-Butyl benzene	ND	1.0	0.5	Carbon Disulfide	ND	1.0	0.5
Carbon Tetrachloride	ND	1.0	0.5	Chlorobenzene	ND	1.0	0.5
Chloroethane	ND	1.0	0.5	2-Chloroethyl Vinyl Ether	ND	1.0	1.0
Chloroform	ND	1.0	0.5	Chloromethane	ND	1.0	0.5
2-Chlorotoluene	ND	1.0	0.5	4-Chlorotoluene	ND	1.0	0.5
Dibromochloromethane	ND	1.0	0.5	1,2-Dibromo-3-chloropropane	ND	1.0	0.5
1,2-Dibromochloroethane (EDB)	ND	1.0	0.5	Dibromomethane	ND	1.0	0.5
1,2-Dichlorobenzene	ND	1.0	0.5	1,3-Dichlorobenzene	ND	1.0	0.5
1,4-Dichlorobenzene	ND	1.0	0.5	Dichlorodifluoromethane	ND	1.0	0.5
1,1-Dichloroethane	ND	1.0	0.5	1,2-Dichloroethane (1,2-DCA)	ND	1.0	0.5
1,1-Dichloroethene	ND	1.0	0.5	cis-1,2-Dichloroethene	ND	1.0	0.5
trans-1,2-Dichloroethene	ND	1.0	0.5	1,2-Dichloropropane	ND	1.0	0.5
1,3-Dichloropropane	ND	1.0	0.5	2,2-Dichloropropane	ND	1.0	0.5
1,1-Dichloropropene	ND	1.0	0.5	cis-1,3-Dichloropropene	ND	1.0	0.5
trans-1,3-Dichloropropene	ND	1.0	0.5	Diisopropyl ether (DIPE)	ND	1.0	0.5
Ethylbenzene	ND	1.0	0.5	Ethyl tert-butyl ether (ETBE)	ND	1.0	0.5
Freon 113	ND	1.0	10	Hexachlorobutadiene	ND	1.0	0.5
Hexachloroethane	ND	1.0	0.5	2-Hexanone	ND	1.0	0.5
Isopropylbenzene	ND	1.0	0.5	4-Isopropyl toluene	ND	1.0	0.5
Methyl-t-butyl ether (MTBE)	ND	1.0	0.5	Methylene chloride	ND	1.0	0.5
4-Methyl-2-pentanone (MIBK)	ND	1.0	0.5	Naphthalene	ND	1.0	0.5
Nitrobenzene	ND	1.0	10	n-Propyl benzene	ND	1.0	0.5
Styrene	ND	1.0	0.5	1,1,1,2-Tetrachloroethane	ND	1.0	0.5
1,1,2,2-Tetrachloroethane	ND	1.0	0.5	Tetrachloroethene	ND	1.0	0.5
Toluene	ND	1.0	0.5	1,2,3-Trichlorobenzene	ND	1.0	0.5
1,2,4-Trichlorobenzene	ND	1.0	0.5	1,1,1-Trichloroethane	ND	1.0	0.5
1,1,2-Trichloroethane	ND	1.0	0.5	Trichloroethene	ND	1.0	0.5
Trichlorofluoromethane	ND	1.0	0.5	1,2,3-Trichloropropane	ND	1.0	0.5
1,2,4-Trimethylbenzene	ND	1.0	0.5	1,3,5-Trimethylbenzene	ND	1.0	0.5
Vinyl Chloride	ND	1.0	0.5	Xylenes	ND	1.0	0.5

### Surrogate Recoveries (%)

%SS1:	105	%SS2:	94
%SS3:	97		

### Comments:

\* water and vapor samples are reported in µg/L, soil/sludge/solid samples in mg/kg, product/oil/non-aqueous liquid samples and all TCLP & SPLP extracts are reported in mg/L, wipe samples in µg/wipe.

ND means not detected above the reporting limit; N/A means analyte not applicable to this analysis.

# surrogate diluted out of range or coelutes with another peak; &) low surrogate due to matrix interference.

h) lighter than water immiscible sheen/product is present; i) liquid sample that contains greater than ~1 vol. % sediment; j) sample diluted due to high organic content/matrix interference; k) reporting limit near, but not identical to our standard reporting limit due to variable Encore sample weight; m) reporting limit raised due to insufficient sample amount; n) results are reported on a dry weight basis; p) see attached narrative.



# McC Campbell Analytical, Inc.

110 2nd Avenue South, #D7, Pacheco, CA 94553-5560  
Telephone : 925-798-1620 Fax : 925-798-1622  
Website: www.mcccampbell.com E-mail: main@mcccampbell.com

Kleinfelder, Inc.

780 Chadbourne Rd, Ste. D

Fairfield, CA 94534

Client Project ID: #68149 Task 1;  
CDF-Laytonville

Client Contact: Sarah Callahan

Client P.O.:

Date Sampled: 05/17/06

Date Received: 05/18/06

Date Extracted: 05/18/06

Date Analyzed: 05/18/06

## Volatile Organics by P&T and GC/MS (Basic Target List)\*

Extraction Method: SW5030B

Analytical Method: SW8260B

Work Order: 0605384

Lab ID	0605384-006B						
Client ID	MW-6						
Matrix	Water						
Compound	Concentration *	DF	Reporting Limit	Compound	Concentration *	DF	Reporting Limit
Acetone	ND<50	10	5.0	Acrolein (Propenal)	ND<50	10	5.0
Acrylonitrile	ND<20	10	2.0	tert-Amyl methyl ether (TAME)	ND<5.0	10	0.5
Benzene	170	10	0.5	Bromobenzene	ND<5.0	10	0.5
Bromochloromethane	ND<5.0	10	0.5	Bromodichloromethane	ND<5.0	10	0.5
Bromoform	ND<5.0	10	0.5	Bromomethane	ND<5.0	10	0.5
2-Butanone (MEK)	ND<20	10	2.0	t-Butyl alcohol (TBA)	ND<50	10	5.0
n-Butyl benzene	6.7	10	0.5	sec-Butyl benzene	ND<5.0	10	0.5
tert-Butyl benzene	ND<5.0	10	0.5	Carbon Disulfide	ND<5.0	10	0.5
Carbon Tetrachloride	ND<5.0	10	0.5	Chlorobenzene	ND<5.0	10	0.5
Chloroethane	ND<5.0	10	0.5	2-Chloroethyl Vinyl Ether	ND<10	10	1.0
Chloroform	ND<5.0	10	0.5	Chloromethane	ND<5.0	10	0.5
2-Chlorotoluene	ND<5.0	10	0.5	4-Chlorotoluene	ND<5.0	10	0.5
Dibromochloromethane	ND<5.0	10	0.5	1,2-Dibromo-3-chloropropane	ND<5.0	10	0.5
1,2-Dibromoethane (EDB)	ND<5.0	10	0.5	Dibromomethane	ND<5.0	10	0.5
1,2-Dichlorobenzene	ND<5.0	10	0.5	1,3-Dichlorobenzene	ND<5.0	10	0.5
1,4-Dichlorobenzene	ND<5.0	10	0.5	Dichlorodifluoromethane	ND<5.0	10	0.5
1,1-Dichloroethane	ND<5.0	10	0.5	1,2-Dichloroethane (1,2-DCA)	ND<5.0	10	0.5
1,1-Dichloroethene	ND<5.0	10	0.5	cis-1,2-Dichloroethene	ND<5.0	10	0.5
trans-1,2-Dichloroethene	ND<5.0	10	0.5	1,2-Dichloropropane	ND<5.0	10	0.5
1,3-Dichloropropane	ND<5.0	10	0.5	2,2-Dichloropropane	ND<5.0	10	0.5
1,1-Dichloropropene	ND<5.0	10	0.5	cis-1,3-Dichloropropene	ND<5.0	10	0.5
trans-1,3-Dichloropropene	ND<5.0	10	0.5	Diisopropyl ether (DIPE)	ND<5.0	10	0.5
Ethylbenzene	140	10	0.5	Ethyl tert-butyl ether (ETBE)	ND<5.0	10	0.5
Freon 113	ND<100	10	10	Hexachlorobutadiene	ND<5.0	10	0.5
Hexachloroethane	ND<5.0	10	0.5	2-Hexanone	ND<5.0	10	0.5
Isopropylbenzene	15	10	0.5	4-Isopropyl toluene	ND<5.0	10	0.5
Methyl-t-butyl ether (MTBE)	ND<5.0	10	0.5	Methylene chloride	ND<5.0	10	0.5
4-Methyl-2-pentanone (MIBK)	ND<5.0	10	0.5	Naphthalene	36	10	0.5
Nitrobenzene	ND<100	10	10	n-Propyl benzene	30	10	0.5
Styrene	ND<5.0	10	0.5	1,1,1,2-Tetrachloroethane	ND<5.0	10	0.5
1,1,2,2-Tetrachloroethane	ND<5.0	10	0.5	Tetrachloroethene	ND<5.0	10	0.5
Toluene	ND<5.0	10	0.5	1,2,3-Trichlorobenzene	ND<5.0	10	0.5
1,2,4-Trichlorobenzene	ND<5.0	10	0.5	1,1,1-Trichloroethane	ND<5.0	10	0.5
1,1,2-Trichloroethane	ND<5.0	10	0.5	Trichloroethene	ND<5.0	10	0.5
Trichlorofluoromethane	ND<5.0	10	0.5	1,2,3-Trichloropropane	ND<5.0	10	0.5
1,2,4-Trimethylbenzene	ND<5.0	10	0.5	1,3,5-Trimethylbenzene	ND<5.0	10	0.5
Vinyl Chloride	ND<5.0	10	0.5	Xylenes	ND<5.0	10	0.5

### Surrogate Recoveries (%)

%SS1:	106	%SS2:	97
%SS3:	99		

Comments: i

\* water and vapor samples are reported in µg/L, soil/sludge/solid samples in mg/kg, product/oil/non-aqueous liquid samples and all TCLP & SPLP extracts are reported in mg/L, wipe samples in µg/wipe.

ND means not detected above the reporting limit; N/A means analyte not applicable to this analysis.

# surrogate diluted out of range or coelutes with another peak; &) low surrogate due to matrix interference.

h) lighter than water immiscible sheen/product is present; i) liquid sample that contains greater than ~1 vol. % sediment; j) sample diluted due to high organic content/matrix interference; k) reporting limit near, but not identical to our standard reporting limit due to variable Encore sample weight; m) reporting limit raised due to insufficient sample amount; n) results are reported on a dry weight basis; p) see attached narrative.



# McC Campbell Analytical, Inc.

110 2nd Avenue South, #D7, Pacheco, CA 94553-5560  
Telephone : 925-798-1620 Fax : 925-798-1622  
Website: www.mcccampbell.com E-mail: main@mcccampbell.com

Kleinfelder, Inc.  
780 Chadbourne Rd, Ste. D  
Fairfield, CA 94534

Client Project ID: #68149 Task 1;  
CDF-Laytonville

Client Contact: Sarah Callahan  
Client P.O.:

Date Sampled: 05/17/06  
Date Received: 05/18/06  
Date Extracted: 05/18/06  
Date Analyzed: 05/18/06

## Volatile Organics by P&T and GC/MS (Basic Target List)\*

Extraction Method: SW5030B

Analytical Method: SW8260B

Work Order: 0605384

Lab ID	0605384-007B						
Client ID	MW-7						
Matrix	Water						
Compound	Concentration *	DF	Reporting Limit	Compound	Concentration *	DF	Reporting Limit
Acetone	ND	1.0	5.0	Acrolein (Propenal)	ND	1.0	5.0
Acrylonitrile	ND	1.0	2.0	tert-Amyl methyl ether (TAME)	ND	1.0	0.5
Benzene	0.90	1.0	0.5	Bromobenzene	ND	1.0	0.5
Bromochloromethane	ND	1.0	0.5	Bromodichloromethane	ND	1.0	0.5
Bromoform	ND	1.0	0.5	Bromomethane	ND	1.0	0.5
2-Butanone (MEK)	ND	1.0	2.0	t-Butyl alcohol (TBA)	ND	1.0	5.0
n-Butyl benzene	ND	1.0	0.5	sec-Butyl benzene	ND	1.0	0.5
tert-Butyl benzene	ND	1.0	0.5	Carbon Disulfide	ND	1.0	0.5
Carbon Tetrachloride	ND	1.0	0.5	Chlorobenzene	ND	1.0	0.5
Chloroethane	ND	1.0	0.5	2-Chloroethyl Vinyl Ether	ND	1.0	1.0
Chloroform	ND	1.0	0.5	Chloromethane	ND	1.0	0.5
2-Chlorotoluene	ND	1.0	0.5	4-Chlorotoluene	ND	1.0	0.5
Dibromochloromethane	ND	1.0	0.5	1,2-Dibromo-3-chloropropane	ND	1.0	0.5
1,2-Dibromoethane (EDB)	ND	1.0	0.5	Dibromomethane	ND	1.0	0.5
1,2-Dichlorobenzene	ND	1.0	0.5	1,3-Dichlorobenzene	ND	1.0	0.5
1,4-Dichlorobenzene	ND	1.0	0.5	Dichlorodifluoromethane	ND	1.0	0.5
1,1-Dichloroethane	ND	1.0	0.5	1,2-Dichloroethane (1,2-DCA)	ND	1.0	0.5
1,1-Dichloroethene	ND	1.0	0.5	cis-1,2-Dichloroethene	ND	1.0	0.5
trans-1,2-Dichloroethene	ND	1.0	0.5	1,2-Dichloropropane	ND	1.0	0.5
1,3-Dichloropropane	ND	1.0	0.5	2,2-Dichloropropane	ND	1.0	0.5
1,1-Dichloropropene	ND	1.0	0.5	cis-1,3-Dichloropropene	ND	1.0	0.5
trans-1,3-Dichloropropene	ND	1.0	0.5	Diisopropyl ether (DIPE)	ND	1.0	0.5
Ethylbenzene	0.58	1.0	0.5	Ethyl tert-butyl ether (ETBE)	ND	1.0	0.5
Freon 113	ND	1.0	10	Hexachlorobutadiene	ND	1.0	0.5
Hexachloroethane	ND	1.0	0.5	2-Hexanone	ND	1.0	0.5
Isopropylbenzene	ND	1.0	0.5	4-Isopropyl toluene	ND	1.0	0.5
Methyl-t-butyl ether (MTBE)	ND	1.0	0.5	Methylene chloride	ND	1.0	0.5
4-Methyl-2-pentanone (MIBK)	ND	1.0	0.5	Naphthalene	ND	1.0	0.5
Nitrobenzene	ND	1.0	10	n-Propyl benzene	ND	1.0	0.5
Styrene	ND	1.0	0.5	1,1,1,2-Tetrachloroethane	ND	1.0	0.5
1,1,2,2-Tetrachloroethane	ND	1.0	0.5	Tetrachloroethene	ND	1.0	0.5
Toluene	ND	1.0	0.5	1,2,3-Trichlorobenzene	ND	1.0	0.5
1,2,4-Trichlorobenzene	ND	1.0	0.5	1,1,1-Trichloromethane	ND	1.0	0.5
1,1,2-Trichloroethane	ND	1.0	0.5	Trichloroethene	ND	1.0	0.5
Trichlorofluoromethane	ND	1.0	0.5	1,2,3-Trichloropropane	ND	1.0	0.5
1,2,4-Trimethylbenzene	ND	1.0	0.5	1,3,5-Trimethylbenzene	ND	1.0	0.5
Vinyl Chloride	ND	1.0	0.5	Xylenes	ND	1.0	0.5

### Surrogate Recoveries (%)

%SS1:	106	%SS2:	94
%SS3:	100		

### Comments:

\* water and vapor samples are reported in µg/L, soil/sludge/solid samples in mg/kg, product/oil/non-aqueous liquid samples and all TCLP & SPLP extracts are reported in mg/L, wipe samples in µg/wipe.

ND means not detected above the reporting limit; N/A means analyte not applicable to this analysis.

# surrogate diluted out of range or coelutes with another peak; &) low surrogate due to matrix interference.

h) lighter than water immiscible sheen/product is present; i) liquid sample that contains greater than ~1 vol. % sediment; j) sample diluted due to high organic content/matrix interference; k) reporting limit near, but not identical to our standard reporting limit; due to variable Encore sample weight; m) reporting limit raised due to insufficient sample amount; n) results are reported on a dry weight basis; p) see attached narrative.





# McC Campbell Analytical, Inc.

110 2nd Avenue South, #D7, Pacheco, CA 94553-5560  
Telephone : 925-798-1620 Fax : 925-798-1622  
Website: www.mcccampbell.com E-mail: main@mcccampbell.com

Kleinfelder, Inc.  
780 Chadbourne Rd, Ste. D  
Fairfield, CA 94534

Client Project ID: #68149 Task 1;  
CDF-Laytonville  
Client Contact: Sarah Callahan  
Client P.O.:

Date Sampled: 05/17/06  
Date Received: 05/18/06  
Date Extracted: 05/20/06  
Date Analyzed: 05/20/06

## Volatile Organics by P&T and GC/MS (Basic Target List)\*

Extraction Method: SW5030B

Analytical Method: SW8260B

Work Order: 0605384

Lab ID	0605384-008B						
Client ID	MW-8						
Matrix	Water						
Compound	Concentration *	DF	Reporting Limit	Compound	Concentration *	DF	Reporting Limit
Acetone	ND	1.0	5.0	Acrolein (Propenal)	ND	1.0	5.0
Acrylonitrile	ND	1.0	2.0	tert-Amyl methyl ether (TAME)	ND	1.0	0.5
Benzene	2.2	1.0	0.5	Bromobenzene	ND	1.0	0.5
Bromochloromethane	ND	1.0	0.5	Bromodichloromethane	ND	1.0	0.5
Bromoform	ND	1.0	0.5	Bromomethane	ND	1.0	0.5
2-Butanone (MEK)	ND	1.0	2.0	t-Butyl alcohol (TBA)	ND	1.0	5.0
n-Butyl benzene	ND	1.0	0.5	sec-Butyl benzene	ND	1.0	0.5
tert-Butyl benzene	ND	1.0	0.5	Carbon Disulfide	ND	1.0	0.5
Carbon Tetrachloride	ND	1.0	0.5	Chlorobenzene	ND	1.0	0.5
Chloroethane	ND	1.0	0.5	2-Chloroethyl Vinyl Ether	ND	1.0	1.0
Chloroform	ND	1.0	0.5	Chloromethane	ND	1.0	0.5
2-Chlorotoluene	ND	1.0	0.5	4-Chlorotoluene	ND	1.0	0.5
Dibromochloromethane	ND	1.0	0.5	1,2-Dibromo-3-chloropropane	ND	1.0	0.5
1,2-Dibromoethane (EDB)	ND	1.0	0.5	Dibromomethane	ND	1.0	0.5
1,2-Dichlorobenzene	ND	1.0	0.5	1,3-Dichlorobenzene	ND	1.0	0.5
1,4-Dichlorobenzene	ND	1.0	0.5	Dichlorodifluoromethane	ND	1.0	0.5
1,1-Dichloroethane	ND	1.0	0.5	1,2-Dichloroethane (1,2-DCA)	ND	1.0	0.5
1,1-Dichloroethene	ND	1.0	0.5	cis-1,2-Dichloroethene	ND	1.0	0.5
trans-1,2-Dichloroethene	ND	1.0	0.5	1,2-Dichloropropane	ND	1.0	0.5
1,3-Dichloropropane	ND	1.0	0.5	2,2-Dichloropropane	ND	1.0	0.5
1,1-Dichloropropene	ND	1.0	0.5	cis-1,3-Dichloropropene	ND	1.0	0.5
trans-1,3-Dichloropropene	ND	1.0	0.5	Diisopropyl ether (DIPE)	ND	1.0	0.5
Ethylbenzene	0.56	1.0	0.5	Ethyl tert-butyl ether (ETBE)	ND	1.0	0.5
Freon 113	ND	1.0	10	Hexachlorobutadiene	ND	1.0	0.5
Hexachloroethane	ND	1.0	0.5	2-Hexanone	ND	1.0	0.5
Isopropylbenzene	1.0	1.0	0.5	4-Isopropyl toluene	ND	1.0	0.5
Methyl-t-butyl ether (MTBE)	ND	1.0	0.5	Methylene chloride	ND	1.0	0.5
4-Methyl-2-pentanone (MIBK)	ND	1.0	0.5	Naphthalene	ND	1.0	0.5
Nitrobenzene	ND	1.0	10	n-Propyl benzene	0.66	1.0	0.5
Styrene	ND	1.0	0.5	1,1,1,2-Tetrachloroethane	ND	1.0	0.5
1,1,2,2-Tetrachloroethane	ND	1.0	0.5	Tetrachloroethene	ND	1.0	0.5
Toluene	0.60	1.0	0.5	1,2,3-Trichlorobenzene	ND	1.0	0.5
1,2,4-Trichlorobenzene	ND	1.0	0.5	1,1,1-Trichloroethane	ND	1.0	0.5
1,1,2-Trichloroethane	ND	1.0	0.5	Trichloroethene	ND	1.0	0.5
Trichlorofluoromethane	ND	1.0	0.5	1,2,3-Trichloropropane	ND	1.0	0.5
1,2,4-Trimethylbenzene	ND	1.0	0.5	1,3,5-Trimethylbenzene	ND	1.0	0.5
Vinyl Chloride	ND	1.0	0.5	Xylenes	ND	1.0	0.5

### Surrogate Recoveries (%)

%SS1:	104	%SS2:	99
%SS3:	103		

### Comments:

\* water and vapor samples are reported in µg/L, soil/sludge/solid samples in mg/kg, product/oil/non-aqueous liquid samples and all TCLP & SPLP extracts are reported in mg/L, wipe samples in µg/wipe.

ND means not detected above the reporting limit; N/A means analyte not applicable to this analysis.

# surrogate diluted out of range or coelutes with another peak; &) low surrogate due to matrix interference.

h) lighter than water immiscible sheen/product is present; i) liquid sample that contains greater than ~1 vol. % sediment; j) sample diluted due to high organic content/matrix interference; k) reporting limit near, but not identical to our standard reporting limit due to variable Encore sample weight; m) reporting limit raised due to insufficient sample amount; n) results are reported on a dry weight basis; p) see attached narrative.





# McC Campbell Analytical, Inc.

110 2nd Avenue South, #D7, Pacheco, CA 94553-5560  
Telephone : 925-798-1620 Fax : 925-798-1622  
Website: www.mcccampbell.com E-mail: main@mcccampbell.com

Kleinfelder, Inc.

780 Chadbourne Rd, Ste. D

Fairfield, CA 94534

Client Project ID: #68149 Task 1;  
CDF-Laytonville

Client Contact: Sarah Callahan

Client P.O.:

Date Sampled: 05/17/06

Date Received: 05/18/06

Date Extracted: 05/18/06

Date Analyzed: 05/18/06

## Volatile Organics by P&T and GC/MS (Basic Target List)\*

Extraction Method: SW5030B

Analytical Method: SW8260B

Work Order: 0605384

Lab ID	0605384-010B						
Client ID	MW-10						
Matrix	Water						
Compound	Concentration *	DF	Reporting Limit	Compound	Concentration *	DF	Reporting Limit
Acetone	ND	1.0	5.0	Acrolein (Propenal)	ND	1.0	5.0
Acrylonitrile	ND	1.0	2.0	tert-Amyl methyl ether (TAME)	ND	1.0	0.5
Benzene	0.58	1.0	0.5	Bromobenzene	ND	1.0	0.5
Bromochloromethane	ND	1.0	0.5	Bromodichloromethane	ND	1.0	0.5
Bromoform	ND	1.0	0.5	Bromomethane	ND	1.0	0.5
2-Butanone (MEK)	ND	1.0	2.0	t-Butyl alcohol (TBA)	ND	1.0	5.0
n-Butyl benzene	ND	1.0	0.5	sec-Butyl benzene	ND	1.0	0.5
tert-Butyl benzene	ND	1.0	0.5	Carbon Disulfide	ND	1.0	0.5
Carbon Tetrachloride	ND	1.0	0.5	Chlorobenzene	ND	1.0	0.5
Chloroethane	ND	1.0	0.5	2-Chloroethyl Vinyl Ether	ND	1.0	1.0
Chloroform	ND	1.0	0.5	Chloromethane	ND	1.0	0.5
2-Chlorotoluene	ND	1.0	0.5	4-Chlorotoluene	ND	1.0	0.5
Dibromochloromethane	ND	1.0	0.5	1,2-Dibromo-3-chloropropane	ND	1.0	0.5
1,2-Dibromoethane (EDB)	ND	1.0	0.5	Dibromomethane	ND	1.0	0.5
1,2-Dichlorobenzene	ND	1.0	0.5	1,3-Dichlorobenzene	ND	1.0	0.5
1,4-Dichlorobenzene	ND	1.0	0.5	Dichlorodifluoromethane	ND	1.0	0.5
1,1-Dichloroethane	ND	1.0	0.5	1,2-Dichloroethane (1,2-DCA)	ND	1.0	0.5
1,1-Dichloroethene	ND	1.0	0.5	cis-1,2-Dichloroethene	ND	1.0	0.5
trans-1,2-Dichloroethene	ND	1.0	0.5	1,2-Dichloropropane	ND	1.0	0.5
1,3-Dichloropropane	ND	1.0	0.5	2,2-Dichloropropane	ND	1.0	0.5
1,1-Dichloropropene	ND	1.0	0.5	cis-1,3-Dichloropropene	ND	1.0	0.5
trans-1,3-Dichloropropene	ND	1.0	0.5	Diisopropyl ether (DIPE)	ND	1.0	0.5
Ethylbenzene	4.0	1.0	0.5	Ethyl tert-butyl ether (ETBE)	ND	1.0	0.5
Freon 113	ND	1.0	10	Hexachlorobutadiene	ND	1.0	0.5
Hexachloroethane	ND	1.0	0.5	2-Hexanone	ND	1.0	0.5
Isopropylbenzene	ND	1.0	0.5	4-Isopropyl toluene	ND	1.0	0.5
Methyl-t-butyl ether (MTBE)	ND	1.0	0.5	Methylene chloride	ND	1.0	0.5
4-Methyl-2-pentanone (MIBK)	ND	1.0	0.5	Naphthalene	0.56	1.0	0.5
Nitrobenzene	ND	1.0	10	n-Propyl benzene	0.69	1.0	0.5
Styrene	ND	1.0	0.5	1,1,1,2-Tetrachloroethane	ND	1.0	0.5
1,1,2,2-Tetrachloroethane	ND	1.0	0.5	Tetrachloroethene	ND	1.0	0.5
Toluene	ND	1.0	0.5	1,2,3-Trichlorobenzene	ND	1.0	0.5
1,2,4-Trichlorobenzene	ND	1.0	0.5	1,1,1-Trichloroethane	ND	1.0	0.5
1,1,2-Trichloroethane	ND	1.0	0.5	Trichloroethene	ND	1.0	0.5
Trichlorofluoromethane	ND	1.0	0.5	1,2,3-Trichloropropane	ND	1.0	0.5
1,2,4-Trimethylbenzene	2.1	1.0	0.5	1,3,5-Trimethylbenzene	0.52	1.0	0.5
Vinyl Chloride	ND	1.0	0.5	Xylenes	2.3	1.0	0.5

### Surrogate Recoveries (%)

%SS1:	106	%SS2:	94
%SS3:	96		

### Comments:

\* water and vapor samples are reported in µg/L, soil/sludge/solid samples in mg/kg, product/oil/non-aqueous liquid samples and all TCLP & SPLP extracts are reported in mg/L, wipe samples in µg/wipe.

ND means not detected above the reporting limit; N/A means analyte not applicable to this analysis.

# surrogate diluted out of range or coelutes with another peak; &) low surrogate due to matrix interference.

h) lighter than water immiscible sheen/product is present; i) liquid sample that contains greater than ~1 vol. % sediment; j) sample diluted due to high organic content/matrix interference; k) reporting limit near, but not identical to our standard reporting limit due to variable Encore sample weight; m) reporting limit raised due to insufficient sample amount; n) results are reported on a dry weight basis; p) see attached narrative.



# McC Campbell Analytical, Inc.

110 2nd Avenue South, #D7, Pacheco, CA 94553-5560  
Telephone : 925-798-1620 Fax : 925-798-1622  
Website: www.mcccampbell.com E-mail: main@mcccampbell.com

Kleinfelder, Inc.

780 Chadbourne Rd, Ste. D

Fairfield, CA 94534

Client Project ID: #68149 Task 1;  
CDF-Laytonville

Client Contact: Sarah Callahan

Client P.O.:

Date Sampled: 05/17/06

Date Received: 05/18/06

Date Extracted: 05/18/06

Date Analyzed: 05/18/06

## Volatile Organics by P&T and GC/MS (Basic Target List)\*

Extraction Method: SW5030B

Analytical Method: SW8260B

Work Order: 0605384

Lab ID	0605384-011B						
Client ID	MW-11						
Matrix	Water						
Compound	Concentration *	DF	Reporting Limit	Compound	Concentration *	DF	Reporting Limit
Acetone	ND	1.0	5.0	Acrolein (Propenal)	ND	1.0	5.0
Acrylonitrile	ND	1.0	2.0	tert-Amyl methyl ether (TAME)	ND	1.0	0.5
Benzene	2.5	1.0	0.5	Bromobenzene	ND	1.0	0.5
Bromochloromethane	ND	1.0	0.5	Bromodichloromethane	ND	1.0	0.5
Bromoform	ND	1.0	0.5	Bromomethane	ND	1.0	0.5
2-Butanone (MEK)	ND	1.0	2.0	t-Butyl alcohol (TBA)	ND	1.0	5.0
n-Butyl benzene	ND	1.0	0.5	sec-Butyl benzene	ND	1.0	0.5
tert-Butyl benzene	ND	1.0	0.5	Carbon Disulfide	ND	1.0	0.5
Carbon Tetrachloride	ND	1.0	0.5	Chlorobenzene	ND	1.0	0.5
Chloroethane	ND	1.0	0.5	2-Chloroethyl Vinyl Ether	ND	1.0	1.0
Chloroform	ND	1.0	0.5	Chloromethane	ND	1.0	0.5
2-Chlorotoluene	ND	1.0	0.5	4-Chlorotoluene	ND	1.0	0.5
Dibromochloromethane	ND	1.0	0.5	1,2-Dibromo-3-chloropropane	ND	1.0	0.5
1,2-Dibromoethane (EDB)	ND	1.0	0.5	Dibromomethane	ND	1.0	0.5
1,2-Dichlorobenzene	ND	1.0	0.5	1,3-Dichlorobenzene	ND	1.0	0.5
1,4-Dichlorobenzene	ND	1.0	0.5	Dichlorodifluoromethane	ND	1.0	0.5
1,1-Dichloroethane	ND	1.0	0.5	1,2-Dichloroethane (1,2-DCA)	ND	1.0	0.5
1,1-Dichloroethene	ND	1.0	0.5	cis-1,2-Dichloroethene	ND	1.0	0.5
trans-1,2-Dichloroethene	ND	1.0	0.5	1,2-Dichloropropane	ND	1.0	0.5
1,3-Dichloropropane	ND	1.0	0.5	2,2-Dichloropropane	ND	1.0	0.5
1,1-Dichloropropene	ND	1.0	0.5	cis-1,3-Dichloropropene	ND	1.0	0.5
trans-1,3-Dichloropropene	ND	1.0	0.5	Diisopropyl ether (DIPE)	ND	1.0	0.5
Ethylbenzene	0.76	1.0	0.5	Ethyl tert-butyl ether (ETBE)	ND	1.0	0.5
Freon 113	ND	1.0	10	Hexachlorobutadiene	ND	1.0	0.5
Hexachloroethane	ND	1.0	0.5	2-Hexanone	ND	1.0	0.5
Isopropylbenzene	ND	1.0	0.5	4-Isopropyl toluene	ND	1.0	0.5
Methyl-t-butyl ether (MTBE)	ND	1.0	0.5	Methylene chloride	ND	1.0	0.5
4-Methyl-2-pentanone (MIBK)	ND	1.0	0.5	Naphthalene	ND	1.0	0.5
Nitrobenzene	ND	1.0	10	n-Propyl benzene	ND	1.0	0.5
Styrene	ND	1.0	0.5	1,1,1,2-Tetrachloroethane	ND	1.0	0.5
1,1,2,2-Tetrachloroethane	ND	1.0	0.5	Tetrachloroethene	ND	1.0	0.5
Toluene	ND	1.0	0.5	1,2,3-Trichlorobenzene	ND	1.0	0.5
1,2,4-Trichlorobenzene	ND	1.0	0.5	1,1,1-Trichloroethane	ND	1.0	0.5
1,1,2-Trichloroethane	ND	1.0	0.5	Trichloroethene	ND	1.0	0.5
Trichlorofluoromethane	ND	1.0	0.5	1,2,3-Trichloropropane	ND	1.0	0.5
1,2,4-Trimethylbenzene	ND	1.0	0.5	1,3,5-Trimethylbenzene	ND	1.0	0.5
Vinyl Chloride	ND	1.0	0.5	Xylenes	ND	1.0	0.5

### Surrogate Recoveries (%)

%SS1:	105	%SS2:	94
%SS3:	99		

### Comments:

\* water and vapor samples are reported in µg/L, soil/sludge/solid samples in mg/kg, product/oil/non-aqueous liquid samples and all TCLP & SPLP extracts are reported in mg/L, wipe samples in µg/wipe.

ND means not detected above the reporting limit; N/A means analyte not applicable to this analysis.

# surrogate diluted out of range or coelutes with another peak; &) low surrogate due to matrix interference.

h) lighter than water immiscible sheen/product is present; i) liquid sample that contains greater than ~1 vol. % sediment; j) sample diluted due to high organic content/matrix interference; k) reporting limit near, but not identical to our standard reporting limit due to variable Encore sample weight; m) reporting limit raised due to insufficient sample amount; n) results are reported on a dry weight basis; p) see attached narrative.



# McC Campbell Analytical, Inc.

110 2nd Avenue South, #D7, Pacheco, CA 94553-5560  
Telephone : 925-798-1620 Fax : 925-798-1622  
Website: www.mcccampbell.com E-mail: main@mcccampbell.com

Kleinfelder, Inc.

780 Chadbourne Rd, Ste. D

Fairfield, CA 94534

Client Project ID: #68149 Task 1;  
CDF-Laytonville

Client Contact: Sarah Callahan

Client P.O.:

Date Sampled: 05/17/06

Date Received: 05/18/06

Date Extracted: 05/18/06

Date Analyzed: 05/18/06

## Volatile Organics by P&T and GC/MS (Basic Target List)\*

Extraction Method: SW5030B

Analytical Method: SW8260B

Work Order: 0605384

Lab ID	0605384-012B						
Client ID	SW						
Matrix	Water						
Compound	Concentration *	DF	Reporting Limit	Compound	Concentration *	DF	Reporting Limit
Acetone	ND	1.0	5.0	Acrolein (Propenal)	ND	1.0	5.0
Acrylonitrile	ND	1.0	2.0	tert-Amyl methyl ether (TAME)	ND	1.0	0.5
Benzene	ND	1.0	0.5	Bromobenzene	ND	1.0	0.5
Bromochloromethane	ND	1.0	0.5	Bromodichloromethane	ND	1.0	0.5
Bromoform	ND	1.0	0.5	Bromomethane	ND	1.0	0.5
2-Butanone (MEK)	ND	1.0	2.0	t-Butyl alcohol (TBA)	ND	1.0	5.0
n-Butyl benzene	ND	1.0	0.5	sec-Butyl benzene	ND	1.0	0.5
tert-Butyl benzene	ND	1.0	0.5	Carbon Disulfide	ND	1.0	0.5
Carbon Tetrachloride	ND	1.0	0.5	Chlorobenzene	ND	1.0	0.5
Chloroethane	ND	1.0	0.5	2-Chloroethyl Vinyl Ether	ND	1.0	1.0
Chloroform	ND	1.0	0.5	Chloromethane	ND	1.0	0.5
2-Chlorotoluene	ND	1.0	0.5	4-Chlorotoluene	ND	1.0	0.5
Dibromochloromethane	ND	1.0	0.5	1,2-Dibromo-3-chloropropane	ND	1.0	0.5
1,2-Dibromoethane (EDB)	ND	1.0	0.5	Dibromomethane	ND	1.0	0.5
1,2-Dichlorobenzene	ND	1.0	0.5	1,3-Dichlorobenzene	ND	1.0	0.5
1,4-Dichlorobenzene	ND	1.0	0.5	Dichlorodifluoromethane	ND	1.0	0.5
1,1-Dichloroethane	ND	1.0	0.5	1,2-Dichloroethane (1,2-DCA)	ND	1.0	0.5
1,1-Dichloroethene	ND	1.0	0.5	cis-1,2-Dichloroethene	ND	1.0	0.5
trans-1,2-Dichloroethene	ND	1.0	0.5	1,2-Dichloropropane	ND	1.0	0.5
1,3-Dichloropropane	ND	1.0	0.5	2,2-Dichloropropane	ND	1.0	0.5
1,1-Dichloropropene	ND	1.0	0.5	cis-1,3-Dichloropropene	ND	1.0	0.5
trans-1,3-Dichloropropene	ND	1.0	0.5	Diisopropyl ether (DIPE)	ND	1.0	0.5
Ethylbenzene	ND	1.0	0.5	Ethyl tert-butyl ether (ETBE)	ND	1.0	0.5
Freon 113	ND	1.0	10	Hexachlorobutadiene	ND	1.0	0.5
Hexachloroethane	ND	1.0	0.5	2-Hexanone	ND	1.0	0.5
Isopropylbenzene	ND	1.0	0.5	4-Isopropyl toluene	ND	1.0	0.5
Methyl-t-butyl ether (MTBE)	ND	1.0	0.5	Methylene chloride	ND	1.0	0.5
4-Methyl-2-pentanone (MIBK)	ND	1.0	0.5	Naphthalene	ND	1.0	0.5
Nitrobenzene	ND	1.0	10	n-Propyl benzene	ND	1.0	0.5
Styrene	ND	1.0	0.5	1,1,1,2-Tetrachloroethane	ND	1.0	0.5
1,1,2,2-Tetrachloroethane	ND	1.0	0.5	Tetrachloroethene	ND	1.0	0.5
Toluene	ND	1.0	0.5	1,2,3-Trichlorobenzene	ND	1.0	0.5
1,2,4-Trichlorobenzene	ND	1.0	0.5	1,1,1-Trichloroethane	ND	1.0	0.5
1,1,2-Trichloroethane	ND	1.0	0.5	Trichloroethene	ND	1.0	0.5
Trichlorofluoromethane	ND	1.0	0.5	1,2,3-Trichloropropane	ND	1.0	0.5
1,2,4-Trimethylbenzene	ND	1.0	0.5	1,3,5-Trimethylbenzene	ND	1.0	0.5
Vinyl Chloride	ND	1.0	0.5	Xylenes	ND	1.0	0.5

### Surrogate Recoveries (%)

%SS1:	105	%SS2:	96
%SS3:	98		

### Comments:

\* water and vapor samples are reported in µg/L, soil/sludge/solid samples in mg/kg, product/oil/non-aqueous liquid samples and all TCLP & SPLP extracts are reported in mg/L, wipe samples in µg/wipe.

ND means not detected above the reporting limit; N/A means analyte not applicable to this analysis.

# surrogate diluted out of range or coelutes with another peak; &) low surrogate due to matrix interference.

h) lighter than water immiscible sheen/product is present; i) liquid sample that contains greater than ~1 vol. % sediment; j) sample diluted due to high organic content/matrix interference; k) reporting limit near, but not identical to our standard reporting limit due to variable Encore sample weight; m) reporting limit raised due to insufficient sample amount; n) results are reported on a dry weight basis; p) see attached narrative.



# McC Campbell Analytical, Inc.

110 2nd Avenue South, #D7, Pacheco, CA 94553-5560  
Telephone : 925-798-1620 Fax : 925-798-1622  
Website: www.mccampbell.com E-mail: main@mccampbell.com

Kleinfelder, Inc.

780 Chadbourne Rd, Ste. D

Fairfield, CA 94534

Client Project ID: #68149 Task 1;  
CDF-Laytonville

Client Contact: Sarah Callahan

Client P.O.:

Date Sampled: 05/17/06

Date Received: 05/18/06

Date Extracted: 05/18/06

Date Analyzed: 05/18/06

## Volatile Organics by P&T and GC/MS (Basic Target List)\*

Extraction Method: SW5030B

Analytical Method: SW8260B

Work Order: 0605384

Lab ID	0605384-013B						
Client ID	TB						
Matrix	Water						
Compound	Concentration *	DF	Reporting Limit	Compound	Concentration *	DF	Reporting Limit
Acetone	ND	1.0	5.0	Acrolein (Propenal)	ND	1.0	5.0
Acrylonitrile	ND	1.0	2.0	tert-Amyl methyl ether (TAME)	ND	1.0	0.5
Benzene	ND	1.0	0.5	Bromobenzene	ND	1.0	0.5
Bromochloromethane	ND	1.0	0.5	Bromodichloromethane	ND	1.0	0.5
Bromoform	ND	1.0	0.5	Bromomethane	ND	1.0	0.5
2-Butanone (MEK)	ND	1.0	2.0	t-Butyl alcohol (TBA)	ND	1.0	5.0
n-Butyl benzene	ND	1.0	0.5	sec-Butyl benzene	ND	1.0	0.5
tert-Butyl benzene	ND	1.0	0.5	Carbon Disulfide	ND	1.0	0.5
Carbon Tetrachloride	ND	1.0	0.5	Chlorobenzene	ND	1.0	0.5
Chloroethane	ND	1.0	0.5	2-Chloroethyl Vinyl Ether	ND	1.0	1.0
Chloroform	ND	1.0	0.5	Chloromethane	ND	1.0	0.5
2-Chlorotoluene	ND	1.0	0.5	4-Chlorotoluene	ND	1.0	0.5
Dibromochloromethane	ND	1.0	0.5	1,2-Dibromo-3-chloropropane	ND	1.0	0.5
1,2-Dibromoethane (EDB)	ND	1.0	0.5	Dibromomethane	ND	1.0	0.5
1,2-Dichlorobenzene	ND	1.0	0.5	1,3-Dichlorobenzene	ND	1.0	0.5
1,4-Dichlorobenzene	ND	1.0	0.5	Dichlorodifluoromethane	ND	1.0	0.5
1,1-Dichloroethane	ND	1.0	0.5	1,2-Dichloroethane (1,2-DCA)	ND	1.0	0.5
1,1-Dichloroethene	ND	1.0	0.5	cis-1,2-Dichloroethene	ND	1.0	0.5
trans-1,2-Dichloroethene	ND	1.0	0.5	1,2-Dichloropropane	ND	1.0	0.5
1,3-Dichloropropane	ND	1.0	0.5	2,2-Dichloropropane	ND	1.0	0.5
1,1-Dichloropropene	ND	1.0	0.5	cis-1,3-Dichloropropene	ND	1.0	0.5
trans-1,3-Dichloropropene	ND	1.0	0.5	Diisopropyl ether (DIPE)	ND	1.0	0.5
Ethylbenzene	ND	1.0	0.5	Ethyl tert-butyl ether (ETBE)	ND	1.0	0.5
Freon 113	ND	1.0	10	Hexachlorobutadiene	ND	1.0	0.5
Hexachloroethane	ND	1.0	0.5	2-Hexanone	ND	1.0	0.5
Isopropylbenzene	ND	1.0	0.5	4-Isopropyl toluene	ND	1.0	0.5
Methyl-t-butyl ether (MTBE)	ND	1.0	0.5	Methylene chloride	ND	1.0	0.5
4-Methyl-2-pentanone (MIBK)	ND	1.0	0.5	Naphthalene	ND	1.0	0.5
Nitrobenzene	ND	1.0	10	n-Propyl benzene	ND	1.0	0.5
Styrene	ND	1.0	0.5	1,1,1,2-Tetrachloroethane	ND	1.0	0.5
1,1,2,2-Tetrachloroethane	ND	1.0	0.5	Tetrachloroethene	ND	1.0	0.5
Toluene	ND	1.0	0.5	1,2,3-Trichlorobenzene	ND	1.0	0.5
1,2,4-Trichlorobenzene	ND	1.0	0.5	1,1,1-Trichloroethane	ND	1.0	0.5
1,1,2-Trichloroethane	ND	1.0	0.5	Trichloroethene	ND	1.0	0.5
Trichlorofluoromethane	ND	1.0	0.5	1,2,3-Trichloropropane	ND	1.0	0.5
1,2,4-Trimethylbenzene	ND	1.0	0.5	1,3,5-Trimethylbenzene	ND	1.0	0.5
Vinyl Chloride	ND	1.0	0.5	Xylenes	ND	1.0	0.5

### Surrogate Recoveries (%)

%SS1:	107	%SS2:	95
%SS3:	102		

#### Comments:

\* water and vapor samples are reported in µg/L, soil/sludge/solid samples in mg/kg, product/oil/non-aqueous liquid samples and all TCLP & SPLP extracts are reported in mg/L, wipe samples in µg/wipe.

ND means not detected above the reporting limit; N/A means analyte not applicable to this analysis.

# surrogate diluted out of range or coelutes with another peak; &) low surrogate due to matrix interference.

h) lighter than water immiscible sheen/product is present; i) liquid sample that contains greater than ~1 vol. % sediment; j) sample diluted due to high organic content/matrix interference; k) reporting limit near, but not identical to our standard reporting limit due to variable Encore sample weight; m) reporting limit raised due to insufficient sample amount; n) results are reported on a dry weight basis; p) see attached narrative.



McCAMPBELL ANALYTICAL INC.

110 2nd Avenue South, #D7, Pacheco, CA 94553-5560  
Telephone : 925-798-1620 Fax : 925-798-1622  
<http://www.mccampbell.com> E-mail: [main@mccampbell.com](mailto:main@mccampbell.com)

WorkOrder: 0605384

Sarah Callahan  
Kleinfelder  
780 Chadbourne Rd., Ste. D  
Fairfield, CA. 94534

06/01/06

RE: 8260 Results for MW-2 & MW-3 (Lab ID#0605384-002B & -003B).

These two samples were received on 5/18/06 in unpreserved VOAs (date sampled 5/17/06) and approximately <1% & >0.5% sediment content was observed in the VOAs. The hold time for samples taken in unpreserved VOAs is 7 days. These two samples were analyzed at multiple dilutions because the data was found to be inconsistent. We also analyzed these two samples by EPA method 8021B for BTEX for comparison purposes. Both the 8260B & 8021B analyses showed a significant decrease of the BTEX concentrations on later dates. We theorized that there might be bacteria present in the sediment which may have consumed some of the organic compounds, since there was no acid to prevent the bacteria from growing. We decided to report the first results for both MW-2 & MW-3 because these results would have had the least effect from the bacteria reaction. These samples are still within their holding time and consistent with the 8021B results. Please note that the Benzene concentration for MW-3 exceeded the upper calibration range therefore, it is reported as an estimate value. The table below presents the BTEX concentrations from different dates, different dilutions and different methods for your review.

**8260 Data Summary for MW-2 (Lab ID#0605384-002B) & MW-3 (Lab ID#0605384-003B)**

Lab ID	Date Analyzed	5/18/06	5/24/06	5/25/06	5/25/06
0605384-002B				out of hold time	out of hold time
	Dilution Factor	DF = 100	DF = 20	DF = 10	DF = 1
Analyte		Conc. (ug/L)	Conc. (ug/L)	Conc. (ug/L)	Conc. (ug/L)
Benzene		67	ND<10	ND<5	ND
Toluene		ND<50	ND<10	ND<5	ND
Ethylbenzene		410	ND<10	ND<5	ND
Xylenes		210	30	17	5.6

Lab ID	Date Analyzed	5/18/06	5/24/06	5/25/06	5/25/06
0605384-003B				out of hold time	out of hold time
	Dilution Factor	DF = 1	DF = 20	DF = 5	DF = 1
Analyte		Conc. (ug/L)	Conc. (ug/L)	Conc. (ug/L)	Conc. (ug/L)
Benzene		> 270	ND<10	ND<2.5	ND
Toluene		7.2	ND<10	ND<2.5	ND
Ethylbenzene		ND	ND<10	ND<2.5	ND
Xylenes		3.7	ND<10	ND<2.5	ND



McCAMPBELL ANALYTICAL INC.

110 2nd Avenue South, #D7, Pacheco, CA 94553-5560  
Telephone : 925-798-1620 Fax : 925-798-1622  
<http://www.mccampbell.com> E-mail: [main@mccampbell.com](mailto:main@mccampbell.com)

8021 Data Summary for MW-2 (Lab ID#0605384-002B) & MW-3 (Lab ID#0605384-003B)

Lab ID	Date Analyzed	5/18/06	NA	NA	5/25/06)
0605384-002A					out of hold time
	Dilution Factor	DF = 1	NA	NA	DF = 1
Analyte		Conc. (ug/L)	NA	NA	Conc. (ug/L)
Benzene		57	NA	NA	ND
Toluene		9.7	NA	NA	ND
Ethylbenzene		330	NA	NA	0.59
Xylenes		190	NA	NA	9.6

Lab ID	Date Analyzed	5/18/06	5/19/06	5/19/06	5/22/06	5/25/06
0605384-003A					(NEW VOA)	out of hold time
	Dilution Factor	DF = 1	DF = 10	DF = 1	DF = 1	DF = 1
Analyte		Conc. (ug/L)	Conc. (ug/L)	Conc. (ug/L)	Conc. (ug/L)	Conc. (ug/L)
Benzene		> 720	51	9.1	110	ND
Toluene		10	ND<5	ND	0.87	ND
Ethylbenzene		ND	ND<5	ND	ND	ND
Xylenes		4	ND<5	ND	ND	ND

If you have any questions or comments, please give us a call.

Yours truly,

Angela Rydelius, Lab Manager for McCampbell Analytical Inc.





McC Campbell Analytical, Inc.

110 2nd Avenue South, #D7, Pacheco, CA 94553-5560  
Telephone: 925-798-1620 Fax: 925-798-1622  
Website: www.mccampbell.com E-mail: main@mccampbell.com

## QC SUMMARY REPORT FOR SW8021B/8015Cm

W.O. Sample Matrix: Water

QC Matrix: Water

WorkOrder: 0605384

EPA Method: SW8015Cm		Extraction: SW5030B		BatchID: 21769		Spiked Sample ID: 0605384-004A				
Analyte	Sample	Spiked	MS	MSD	MS-MSD	LCS	LCSD	LCS-LCSD	Acceptance Criteria (%)	
	µg/L	µg/L	% Rec.	% Rec.	% RPD	% Rec.	% Rec.	% RPD	MS / MSD	LCS / LCSD
TPH(btex) <sup>£</sup>	ND	60	106	114	7.03	105	94.8	9.98	70 - 130	70 - 130
MTBE	ND	10	109	106	3.05	109	114	4.52	70 - 130	70 - 130
Benzene	3.3	10	69.7, F1	72.9	3.02	110	96.3	13.1	70 - 130	70 - 130
Toluene	ND	10	97.2	100	3.22	99.2	92.2	7.37	70 - 130	70 - 130
Ethylbenzene	1.4	10	89.4	90.6	1.09	106	105	0.484	70 - 130	70 - 130
Xylenes	ND	30	95.7	96.7	1.04	96.3	96.7	0.345	70 - 130	70 - 130
%SS:	99	10	99	101	2.65	102	97	5.23	70 - 130	70 - 130
All target compounds in the Method Blank of this extraction batch were ND less than the method RL with the following exceptions: NONE										
F1 = MS / MSD exceed acceptance criteria. LCS - LCSD validate prep batch.										

### BATCH 21769 SUMMARY

Sample ID	Date Sampled	Date Extracted	Date Analyzed	Sample ID	Date Sampled	Date Extracted	Date Analyzed
0605384-001A	5/17/06 1:11 PM	5/19/06	5/19/06 10:29 AM	0605384-002A	5/17/06 4:48 PM	5/19/06	5/19/06 11:02 AM
0605384-003A	5/17/06 1:41 PM	5/22/06	5/22/06 4:39 PM	0605384-004A	5/17/06 2:48 PM	5/24/06	5/24/06 8:21 PM
0605384-005A	5/17/06 12:09 PM	5/19/06	5/19/06 12:43 PM	0605384-006A	5/17/06 12:42 PM	5/19/06	5/19/06 3:49 AM
0605384-007A	5/17/06 2:32 PM	5/19/06	5/19/06 3:35 AM	0605384-008A	5/17/06 3:20 PM	5/19/06	5/19/06 6:01 AM

MS = Matrix Spike; MSD = Matrix Spike Duplicate; LCS = Laboratory Control Sample; LCSD = Laboratory Control Sample Duplicate; RPD = Relative Percent Deviation.

% Recovery =  $100 * (MS - Sample) / (Amount Spiked)$ ; RPD =  $100 * (MS - MSD) / ((MS + MSD) / 2)$ .

MS / MSD spike recoveries and / or %RPD may fall outside of laboratory acceptance criteria due to one or more of the following reasons: a) the sample is inhomogenous AND contains significant concentrations of analyte relative to the amount spiked, or b) the spiked sample's matrix interferes with the spike recovery.

£ TPH(btex) = sum of BTEX areas from the FID.

# cluttered chromatogram; sample peak coelutes with surrogate peak.

N/A = not applicable or not enough sample to perform matrix spike and matrix spike duplicate.

NR = analyte concentration in sample exceeds spike amount for soil matrix or exceeds 2x spike amount for water matrix or sample diluted due to high matrix or analyte content.

DHS Certification No. 1644

 QA/QC Officer



McC Campbell Analytical, Inc.

110 2nd Avenue South, #D7, Pacheco, CA 94553-5560  
Telephone : 925-798-1620 Fax : 925-798-1622  
Website: www.mccampbell.com E-mail: main@mccampbell.com

## QC SUMMARY REPORT FOR SW8021B/8015Cm

W.O. Sample Matrix: Water

QC Matrix: Water

WorkOrder: 0605384

EPA Method: SW8015Cm		Extraction: SW5030B			BatchID: 21776			Spiked Sample ID: 0605394-008A		
Analyte	Sample	Spiked	MS	MSD	MS-MSD	LCS	LCSD	LCS-LCSD	Acceptance Criteria (%)	
	µg/L	µg/L	% Rec.	% Rec.	% RPD	% Rec.	% Rec.	% RPD	MS / MSD	LCS / LCSD
TPH(btex) <sup>£</sup>	ND	60	108	106	2.09	109	105	3.20	70 - 130	70 - 130
MTBE	ND	10	108	101	7.28	106	104	2.00	70 - 130	70 - 130
Benzene	ND	10	109	106	2.56	107	98.1	8.57	70 - 130	70 - 130
Toluene	ND	10	102	98.2	4.18	99.7	92.6	7.41	70 - 130	70 - 130
Ethylbenzene	ND	10	105	104	1.46	106	106	0	70 - 130	70 - 130
Xylenes	ND	30	96.7	96	0.692	96.3	96.7	0.345	70 - 130	70 - 130
%SS:	98	10	99	99	0	102	100	1.67	70 - 130	70 - 130

All target compounds in the Method Blank of this extraction batch were ND less than the method RL with the following exceptions:  
NONE

### BATCH 21776 SUMMARY

Sample ID	Date Sampled	Date Extracted	Date Analyzed	Sample ID	Date Sampled	Date Extracted	Date Analyzed
0605384-009A	5/17/06 4:19 PM	5/20/06	5/20/06 7:30 AM	0605384-010A	5/17/06 5:30 PM	5/20/06	5/20/06 8:29 AM
0605384-011A	5/17/06 1:42 PM	5/20/06	5/20/06 8:59 AM	0605384-012A	5/17/06 12:59 PM	5/21/06	5/21/06 12:56 AM
0605384-013A	5/17/06 12:46 PM	5/21/06	5/21/06 1:26 AM				

MS = Matrix Spike; MSD = Matrix Spike Duplicate; LCS = Laboratory Control Sample; LCSD = Laboratory Control Sample Duplicate; RPD = Relative Percent Deviation.

% Recovery =  $100 * (MS - Sample) / (Amount Spiked)$ ;  $RPD = 100 * (MS - MSD) / ((MS + MSD) / 2)$ .

MS / MSD spike recoveries and / or %RPD may fall outside of laboratory acceptance criteria due to one or more of the following reasons: a) the sample is inhomogenous AND contains significant concentrations of analyte relative to the amount spiked, or b) the spiked sample's matrix interferes with the spike recovery.

£ TPH(btex) = sum of BTEX areas from the FID.

# cluttered chromatogram; sample peak coelutes with surrogate peak.

N/A = not applicable or not enough sample to perform matrix spike and matrix spike duplicate.

NR = analyte concentration in sample exceeds spike amount for soil matrix or: exceeds 2x spike amount for water matrix or sample diluted due to high matrix or analyte content.

DHS Certification No. 1644

QA/QC Officer



**McC Campbell Analytical, Inc.**

110 2nd Avenue South, #D7, Pacheco, CA 94553-5560  
Telephone : 925-798-1620 Fax : 925-798-1622  
Website: www.mcccampbell.com E-mail: main@mcccampbell.com

## QC SUMMARY REPORT FOR SW8260B

W.O. Sample Matrix: Water

QC Matrix: Water

WorkOrder: 0605384

EPA Method: SW8260B		Extraction: SW5030B			BatchID: 21775			Spiked Sample ID: 0605384-005B		
Analyte	Sample	Spiked	MS	MSD	MS-MSD	LCS	LCSD	LCS-LCSD	Acceptance Criteria (%)	
	µg/L	µg/L	% Rec.	% Rec.	% RPD	% Rec.	% Rec.	% RPD	MS / MSD	LCS / LCSD
tert-Amyl methyl ether (TAME)	ND	10	95.8	93.2	2.81	96.6	97.6	0.941	70 - 130	70 - 130
Benzene	ND	10	117	116	0.787	114	116	1.94	70 - 130	70 - 130
t-Butyl alcohol (TBA)	ND	50	102	105	2.71	108	105	2.83	70 - 130	70 - 130
Chlorobenzene	ND	10	90.5	90.3	0.303	91.4	92.5	1.17	70 - 130	70 - 130
1,2-Dibromoethane (EDB)	ND	10	115	114	0.655	118	119	1.24	70 - 130	70 - 130
1,2-Dichloroethane (1,2-DCA)	ND	10	102	99.8	1.92	102	102	0	70 - 130	70 - 130
1,1-Dichloroethene	ND	10	104	106	1.82	103	104	1.24	70 - 130	70 - 130
Diisopropyl ether (DIPE)	ND	10	113	111	1.53	112	112	0	70 - 130	70 - 130
Ethyl tert-butyl ether (ETBE)	ND	10	96.3	93.3	3.15	96.8	95.7	1.17	70 - 130	70 - 130
Methyl-t-butyl ether (MTBE)	ND	10	102	101	1.68	102	104	1.62	70 - 130	70 - 130
Toluene	ND	10	98.2	99.5	1.36	99.4	101	1.12	70 - 130	70 - 130
Trichloroethene	ND	10	81	80.2	1.00	80.8	80.4	0.531	70 - 130	70 - 130
%SS1:	105	10	109	106	2.95	106	105	0.922	70 - 130	70 - 130
%SS2:	94	10	97	96	0.404	96	96	0	70 - 130	70 - 130
%SS3:	97	10	101	101	0	101	102	0.583	70 - 130	70 - 130

All target compounds in the Method Blank of this extraction batch were ND less than the method RL with the following exceptions:

NONE

### BATCH 21775 SUMMARY

Sample ID	Date Sampled	Date Extracted	Date Analyzed	Sample ID	Date Sampled	Date Extracted	Date Analyzed
0605384-001B	5/17/06 1:11 PM	5/18/06	5/18/06 4:01 PM	0605384-002B	5/17/06 4:48 PM	5/18/06	5/18/06 4:44 PM
0605384-003B	5/17/06 1:41 PM	5/18/06	5/18/06 6:09 PM	0605384-004B	5/17/06 2:48 PM	5/18/06	5/18/06 6:52 PM
0605384-005B	5/17/06 12:09 PM	5/18/06	5/18/06 7:34 PM	0605384-006B	5/17/06 12:42 PM	5/18/06	5/18/06 6:23 PM
0605384-007B	5/17/06 2:32 PM	5/18/06	5/18/06 8:17 PM	0605384-008B	5/17/06 3:20 PM	5/20/06	5/20/06 3:08 AM
0605384-009B	5/17/06 4:19 PM	5/20/06	5/20/06 3:52 AM	0605384-010B	5/17/06 5:30 PM	5/18/06	5/18/06 8:59 PM
0605384-011B	5/17/06 1:42 PM	5/18/06	5/18/06 5:27 PM				

MS = Matrix Spike; MSD = Matrix Spike Duplicate; LCS = Laboratory Control Sample; LCSD = Laboratory Control Sample Duplicate; RPD = Relative Percent Deviation.

% Recovery =  $100 * (MS - Sample) / (Amount Spiked)$ ;  $RPD = 100 * (MS - MSD) / ((MS + MSD) / 2)$ .

MS / MSD spike recoveries and / or %RPD may fall outside of laboratory acceptance criteria due to one or more of the following reasons: a) the sample is inhomogenous AND contains significant concentrations of analyte relative to the amount spiked, or b) the spiked sample's matrix interferes with the spike recovery.

N/A = not enough sample to perform matrix spike and matrix spike duplicate.

NR = analyte concentration in sample exceeds spike amount for soil matrix or exceeds 2x spike amount for water matrix or sample diluted due to high matrix or analyte content.

Laboratory extraction solvents such as methylene chloride and acetone may occasionally appear in the method blank at low levels.

DHS Certification No. 1644

QA/QC Officer



**McC Campbell Analytical, Inc.**

110 2nd Avenue South, #D7, Pacheco, CA 94553-5560  
Telephone : 925-798-1620 Fax : 925-798-1622  
Website: www.mcccampbell.com E-mail: main@mcccampbell.com

## QC SUMMARY REPORT FOR SW8260B

W.O. Sample Matrix: Water

QC Matrix: Water

WorkOrder: 0605384

EPA Method: SW8260B		Extraction: SW5030B			BatchID: 21777			Spiked Sample ID: 0605375-004A		
Analyte	Sample	Spiked	MS	MSD	MS-MSD	LCS	LCSD	LCS-LCSD	Acceptance Criteria (%)	
	µg/L	µg/L	% Rec.	% Rec.	% RPD	% Rec.	% Rec.	% RPD	MS / MSD	LCS / LCSD
tert-Amyl methyl ether (TAME)	ND	10	97.5	97.5	0	98.7	98.1	0.593	70 - 130	70 - 130
Benzene	ND	10	115	115	0	117	116	0.950	70 - 130	70 - 130
t-Butyl alcohol (TBA)	ND	50	114	112	1.48	114	105	7.52	70 - 130	70 - 130
Chlorobenzene	ND	10	90.2	91.2	1.08	91.8	94.5	2.94	70 - 130	70 - 130
1,2-Dibromoethane (EDB)	ND	10	118	116	1.93	117	117	0	70 - 130	70 - 130
1,2-Dichloroethane (1,2-DCA)	ND	10	102	102	0	103	102	0.591	70 - 130	70 - 130
1,1-Dichloroethene	ND	10	102	102	0	104	103	0.766	70 - 130	70 - 130
Diisopropyl ether (DIPE)	ND	10	113	114	1.05	114	113	1.07	70 - 130	70 - 130
Ethyl tert-butyl ether (ETBE)	ND	10	96.4	96.6	0.163	99.2	97.2	2.03	70 - 130	70 - 130
Methyl-t-butyl ether (MTBE)	ND	10	105	105	0	107	106	1.50	70 - 130	70 - 130
Toluene	ND	10	99.2	99	0.180	101	104	2.39	70 - 130	70 - 130
Trichloroethene	ND	10	80.3	80.4	0.126	80.9	80.9	0	70 - 130	70 - 130
%SS1:	102	10	105	104	0.560	105	103	2.88	70 - 130	70 - 130
%SS2:	92	10	95	95	0	96	95	0.708	70 - 130	70 - 130
%SS3:	102	10	102	102	0	101	101	0	70 - 130	70 - 130

All target compounds in the Method Blank of this extraction batch were ND less than the method RL with the following exceptions:  
NONE

### BATCH 21777 SUMMARY

Sample ID	Date Sampled	Date Extracted	Date Analyzed	Sample ID	Date Sampled	Date Extracted	Date Analyzed
0605384-012B	5/17/06 12:59 PM	5/18/06	5/18/06 9:42 PM	0605384-013B	5/17/06 12:46 PM	5/18/06	5/18/06 10:24 PM

MS = Matrix Spike; MSD = Matrix Spike Duplicate; LCS = Laboratory Control Sample; LCSD = Laboratory Control Sample Duplicate; RPD = Relative Percent Deviation.

% Recovery =  $100 * (MS - Sample) / (Amount Spiked)$ ;  $RPD = 100 * (MS - MSD) / ((MS + MSD) / 2)$

MS / MSD spike recoveries and / or %RPD may fall outside of laboratory acceptance criteria due to one or more of the following reasons: a) the sample is inhomogenous AND contains significant concentrations of analyte relative to the amount spiked, or b) the spiked sample's matrix interferes with the spike recovery.

N/A = not enough sample to perform matrix spike and matrix spike duplicate.

NR = analyte concentration in sample exceeds spike amount for soil matrix or exceeds 2x spike amount for water matrix or sample diluted due to high matrix or analyte content.

Laboratory extraction solvents such as methylene chloride and acetone may occasionally appear in the method blank at low levels.

DHS Certification No. 1644

OL QA/QC Officer